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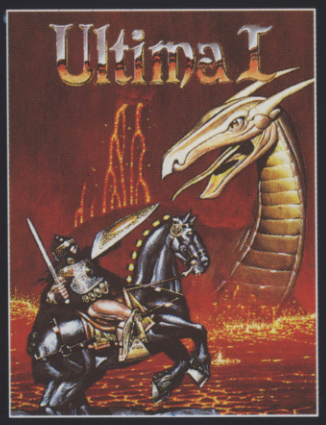

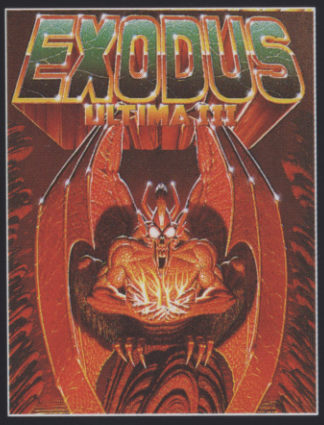

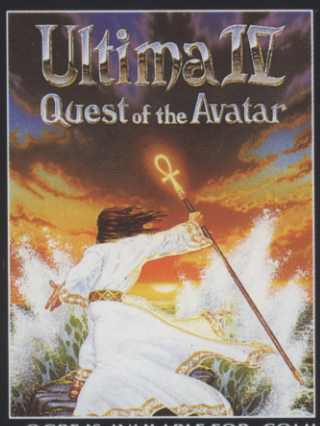

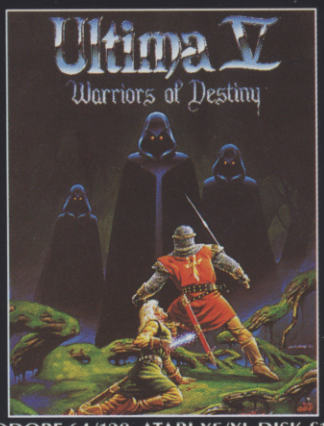

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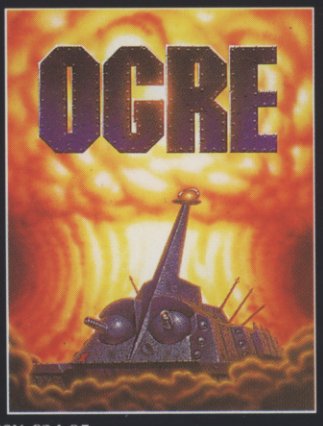

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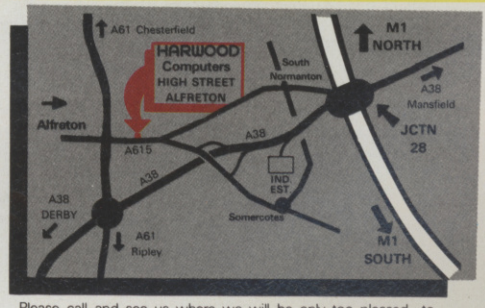

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CCI View

Dear CCI Reader,

Reading CCI this month, you could take two totally opposing views: one, that the 16 bit machines, led by the Amiga are reaching new standards and the 8 bit machines, still led by the 64, are dead; and two, that the 64, at least, is very much alive and still moving boldly ahead; which view you take depends less on facts than where your interests lie.

If you are a games player, you will probably never have had a better example to admire and challenge than Argonaut's brilliant Starglider II. It is what the Amiga was created for – outstanding in almost every department of home computer games. No 8 bit machine could provide the technology for it to do that; a lesson that another conversion from 16 to 8 bit, Barbarian, sadly shows. Yes, you might say, the 64 is out on its feet, forget it.

However, if you were to look further in our pages, you would find, not just Peter Gerrard showing how the 64 can be used for Artificial Intelligence but reviews of new products, as we have seen in recent CCI's that stretch the 8 bit computer's capacities to really exceptional results.

Baudville's Award Maker, for example, is a simple enough idea. But it is beautifully created and an excellent and helpful purpose for the home computer.

So the threat that the 64 is to be consigned to the dustheap of history or tossed aside as a cheap games machine is very far from exact. There is a lot of life in the old dog yet. It might, in fact, turnout to be the exact opposite – that the 64 owner who sticks with it is not going to be the £1.99 game player but the interested computer user – the hobbyist as they call him in the US – who will be able to put his 64 to many useful and even amusing purposes.

Yes, if you want state of the art gameplay, the Amiga may well be the machine to choose, but you don't need it to enjoy such demanding and entertaining programs as Sublogic's Flight Simulator, also reviewed in this CCI in glowing terms. That is a product, which is able to turn an 8 bit computer into a whole world of real time flying. Amiga Starglider or 64 Flight Simulator and Award Maker? They may not just be for different machines but appeal to separate audiences – or to different people at different times. The Amiga is a great, and almost unrivalled machine – but then so is the 64. So if someone tries to tell you the 64 is dead, tell them to go fly Sublogic's Simulator or switch on your 64 and print them out an award certificate as the Honorary Idiot of the Month. Then print out another one for yourself that simply says "The 64 is Still a Great Computer"

Antony H. Jacobson
Managing Editor and Publisher

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Telephone 01-278 0333
Editorial ext. 274
Advertising ext. 280/286
Subscriptions ext. 274
Published by Croftware Limited
Finsbury Business Centre
40 Bowling Green Lane
London EC1R 0NE
Distributed by Comag,
Tavistock Road, West Drayton,
Middx. UB7 7QE
Typesetting Kittiwake Graphics
Printed by Chase Printers Group

Commodore Computing International – an independent magazine for Commodore computer users – is not connected in any way with Commodore Business Machines UK Ltd. It is published 12 times per year by Croftward Limited. The publishers do not accept liability for any incorrect statements or errors contained in material from independent sources or authors which may be reproduced from time to time.

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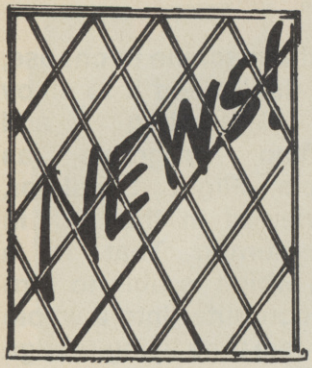


Colour LAPTOP

By the end of the year we may see laptop computers with colour LDC screens. Laptops? prototype shown in a Hitachi laptop ran 16-colour CGA (IBM compatible) graphics. The display measured 6½ in diagonally with a resolution of 640×600.

Each pixel is created by three transistors which create red, green and blue masks over the back-light. Conventional LCDs use multiplexers which causes a noticeable flicker, but Hitachi's colour screens use thin-film technology with each pixel operating as if it were a static device. This produces a very high-contrast ratio. To create the various shades of colour, the system refreshes the different transistors at different rates.

Gnome II: Ingrid's back

Ingrid's back, in the satirical adventure sequel to Level 9's successful Gnome Ranger, in which Ingrid Bottomlow horrifies the inhabitants of Little Moaning by managing to return home there.

Jasper Quickbuck, insider-dealing lord of Ridley's Manor, plans to steamroll this quiet corner of the gnome belt for a Yuppie Homes development, and only accident-prone Ingrid can stop him.

"Gnome II: Ingrid's Back" will be on sale mid-October. It is a three-part graphical adventure, published by Level 9 at £19.95 for 16-bit and £14.95 for C64 versions.

Terrorpods

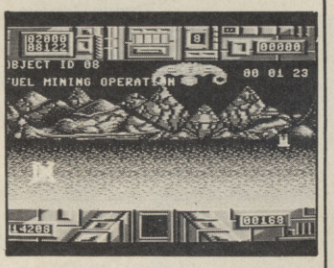
"Its been a long watch ... as the sun disappears over the horizon. The uninviting grey bleakness of Colian becomes apparent.

Following the intense heat of the day the onset of night adds the bitterness of subzero temperatures to an already hostile environment and the stark interior of the defence strategy vehicle appears almost homelike.

Deep melancholy is suddenly smashed by the shrill scream of a siren. The information systems have gone crazy, an extraordinary array of lights flash uncontrollably.

Good grief, what's happening? It can't be! The Terrorpods ... can you survive?"

What does it all mean? Don't ask Mandy of Mastertronic. Anyway, the price is £9.99 (isn't it, Mandy?).



Terrorpods

... can you survive?

SJB/RPS Commodore Disks

SJB Disks Ltd, the specialist diskette distributor based in Loughborough, has won exclusive UK distribution rights for the new Commodore brand of 5.25" and 3.5" diskettes. The disks are to be manufactured by RPS, who already proudce disks for CBM Germany. Sales there were over 10 million in 1987. RPS developed a unique isotropic coating for its diskettes guaranteeing absolute data integrity. Such high levels of product reliability have been a key factor in winning significant business in the face of intense competition. The Commodore brand diskettes are now available in the UK following the announcement of an exclusive licensing agreement for the UK between Commodore and RPS. RPS now supplies the whole of Commodore's European operation which is expected to exceed 20 million in 1988. Commodore has extended the agreement as a result of the proof of product quality, Dean Barratt, UK marketing manager of Commodore commented:

"The evidence from our involvement in West Germany is impressive and we are convinced that this agreement will guarantee the highest quality product for our users and, importantly, provide total support for our dealers."

SJB anticipates initial sales of the new Commodore 5.25" and 3.5" diskettes to be in excess of two million. RPS will manufacture Commodore branded diskettes at its factory in Alibi, France.

For further information please contact: Ivor Norkett, business manager, RPS Ltd, High Street, Houghton Regis, Beds. LU5 5QL. Tel 0582 867222.

TV Sports Football

This is a pro football simulation that 'looks exactly like a televised game'. The first in a series of TV sports simulations from Cinemaware, TV Sports Football features life-like graphics and 'the best animation ever to grace a computer screen.' You're going out on a limb claiming that, Cathy!) With real arcade action on both offence and defence, individual and team statistics, and a 28 team, 16 game schedule with post season play offs. Included at no extra charge are Broadcasters, Cheer Leaders, fans in the Stand and a half time Show. 'So real it sweats' (that's a terrific phrase, Cathy!) TV Sports Football will be released in early 1989 initially on the Amiga with a C64 version to follow.

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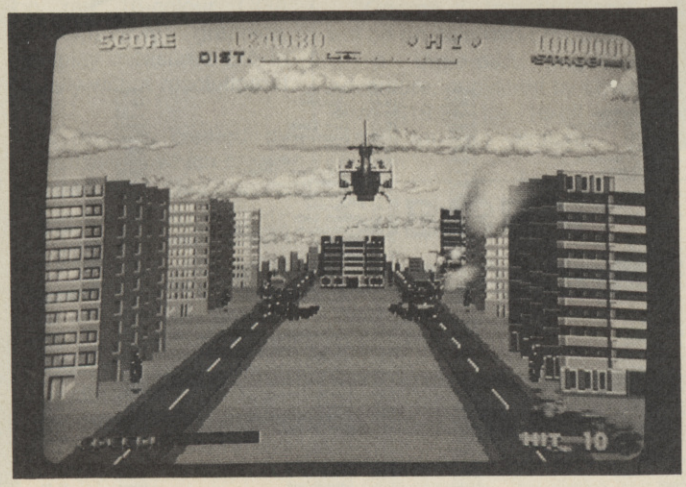
Frosteyte	(disk)	9.49
Stock Market	(disk)	12.49
Leviathan	(disk)	12.49
Leaderboard	(disk)	6.49
Mean 16	(disk)	6.49
World Games	(disk)	6.49
Winter Games	(disk)	6.49
Tournament Leaderboard	(disk)	6.49
Super Huey	(disk)	6.49
Hardball	(disk)	6.49
Q Ball	(disk)	6.49
Wrath of Nikademus	(disk)	6.49
Destroyer	(disk)	6.49
Garrison	(disk)	6.49
Gogans Run	(disk)	6.49
Thunderboy	(disk)	6.49
The Wall	(disk)	6.49
Strange New World	(disk)	6.49
Rolling Thunder	(disk)	6.49
Garrison 2	(disk)	6.49
Jinks	(disk)	6.49
Bad Cats	(disk)	6.49
	(disk)	6.49
	(disk)	6.49

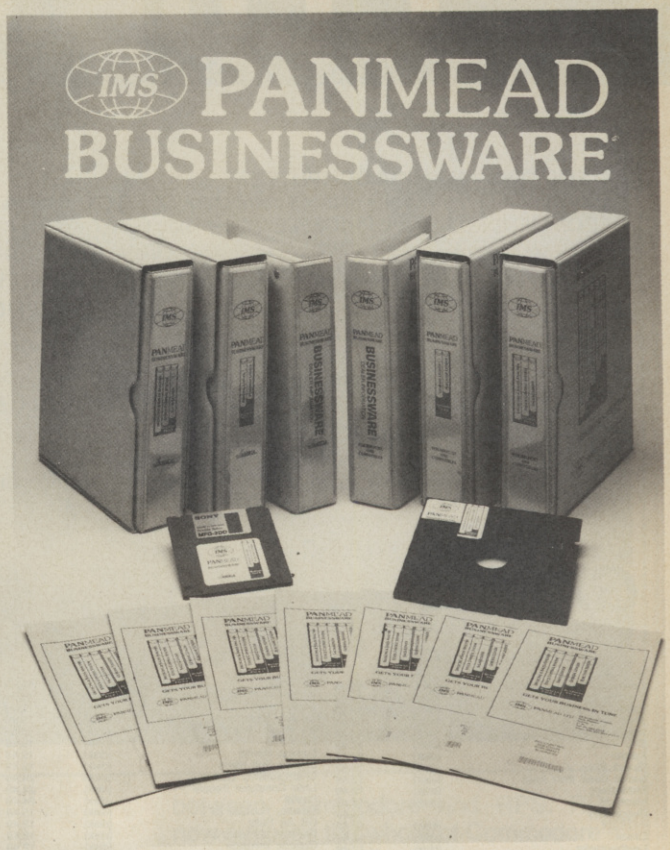
USG's Thunderblade

Nominated the Pepsi Challenge Game of the Year US Gold have secured the rights to convert for the home computer one of SEGA's hottest products to date, Thunderblande is afast moving, all action game that puts you in control of an advanced Helicopter equipped with incredibly accurate and sophisticated weaponry. This is, say US Gold, the meanest fighting machine ever to hit the skies! The key to the game is mastering he speed and agility of the Helicopter on th dangerous missions the player will be faced with. This craft will out manoeuvre even the fastest jet fighter plane ever encountered – providing a far more varied and exciting game.

US Gold say it will be a truly representative version of the arcade game.

Thunderblade will feature as the Pepsi Challenge Game of the year, where high score earners will go forward into a giant prize draw and stand to win any one of a number of gifts. The game will be ready for take-off in December for the Commodore 64, Amiga and PC machines.





Businessware for PC

Following the successful launch of Businessware for the Amiga Panmead has announced the launch of Businessware for PC.

The range of Businessware packages are targeted at serious users who need a professional accounting Package – general ledger, purchase ledger, sales ledger, inventory control together with invoicing and sales analysis are all available. Each Module provides comprehensive features and can be used free-standing or as part of an integrated system.

Ease of use, intensive reporting and a carefully documented manual are characteristics of Businessware. Demonstration software is included in each module.

Panmead's entry into the PC Market has enabled it to reduce the RRP of the complete Businessware package from £295.00 to £196.00 ex v.a.t.

Panmead Businessware is now available on PC and Compatibles as well as the Amiga range. RRP £196 ex. vat. (complete system). Panmead Limited, 12 Seaforth Avenue, New Malden, Surrey KT3 6JP. Tel: 01-942 6512. Tlx: 936227. RELAYI G.

'Kiss the Lady Pig?'

With Psycho Pigs get ready, US Gold says, to move onto the field of play marked out by a series of numbered black time bombs in an intergalactic pig sty.

The referee blows his whistle and you are off, trotters to the ground. It's a free for all as you throw bombs at your opponents before they can throw them back at you. (Pigs? Throwing Bombs?!) Once a bomb has been thrown it begins countdown – once it reaches zero its BOOM!!...If you are in the vicinity, you will still be in for the chop.

After certain levels you will be awarded a bonus round where you must attempt to kiss the lady pigs (sows) as they pop up and down – they certainly blush but your bonus rating rise (Kiss the Lady Pigs? Is this some kind of joke, Danielle?) When you or another pig blows up an opponent an Icon is deposited on the ground, collecting these increases your throwing power. Look out for the blast suit which gives you protection against one direct hit, and best of all the Hyper Bomb, this is the most destructive of them all – it will clear the whole screen in one BLAST!

Psycho Pigs says Danielle, US Gold's most kissable PR person (sorry Richard), is 'a brilliantly imaginative game where there's no room for irRASHERnal thinking as you battle to save your BACON.' (You make a pun like that again and there'll be no more pennies for *your* piggy bank, Danielle!) remember, once hit – you're an instant mixed grill.

Available for C64 9.99C, 14.99D.

Kixx off!

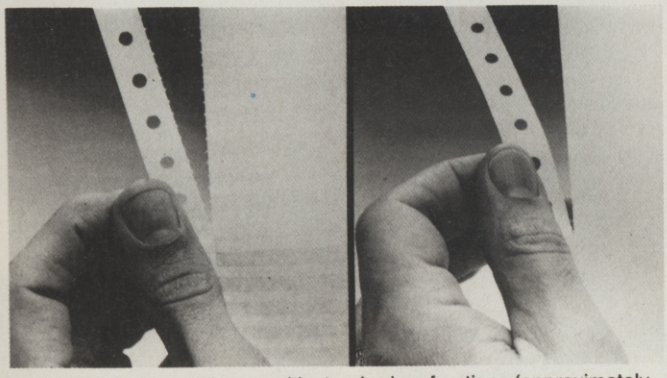
A new name but not new games ... Kixx is a new label started to release games at a (relatively) unusual price level: £2.99. The games are obviously from the U.S. Gold stable and of good to high-quality. They begin with the reputedly biggest selling game ever – in the UK – Gauntlet and follow-up with anothe fairly recent hit, Metrocross. To come are Epyx's famous World Games, Ace of Aces and 10th Frame.

Wider range of Microperf papers

Action Computer Supplies now offers an extended range of continuous stationery with microperforated sprocket margins from two leading suppliers, The Standard Check Book Co and Moore Paragon.

Microperf paper, as it is usually known, uses much finer and closer perforations than standard stationery, so that an extremely smooth edge is left when the sprocket margins are removed and the sheets separated.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx HA0 1WL. Tel: 0800 333 333; Telex: 922493 Action G.



Photograph shows stationery with standard perforations (approximately 8 per inch) on the left, and paper with the very much finer microperforations (50 to 72 per inch) on the right.

The Taste of America

To celebrate what they say is "the biggest consumer product association that the computer games industry has ever see," US Gold will be releasing a Pepsi Cola compilation called "The Taste of America".

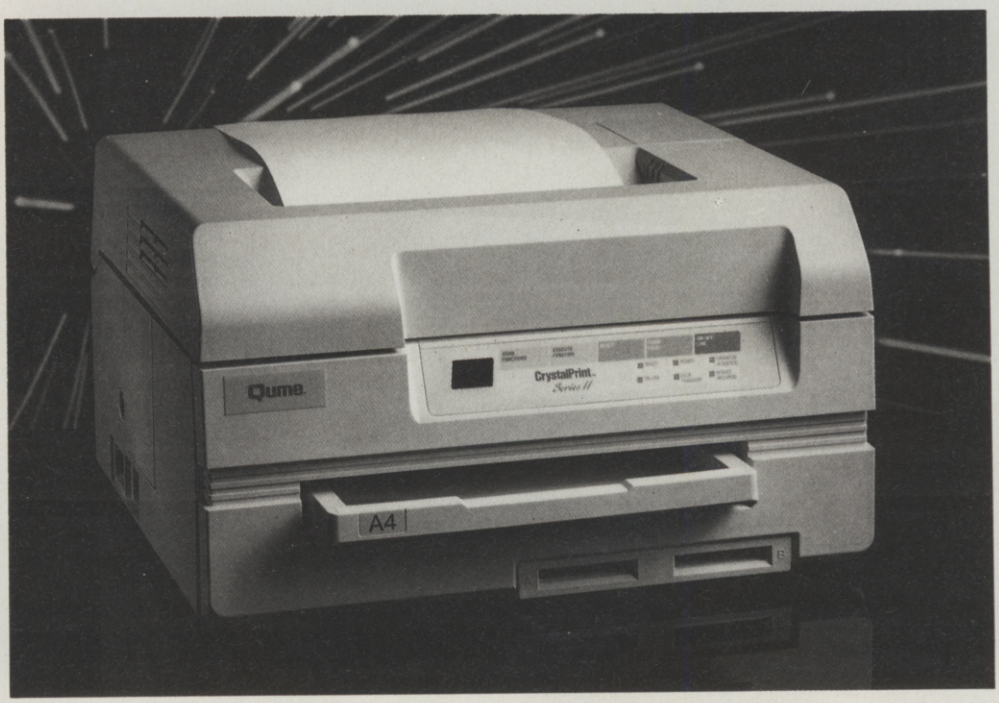
Four classic games will be available on this compilation that would normally retail at a minimum price point of £12.99. An exclusive promotion for Pepsi retail outlets will enable the customer to buy "The Taste of America" compilation at £4.99 with their purchase of a Pepsi product.

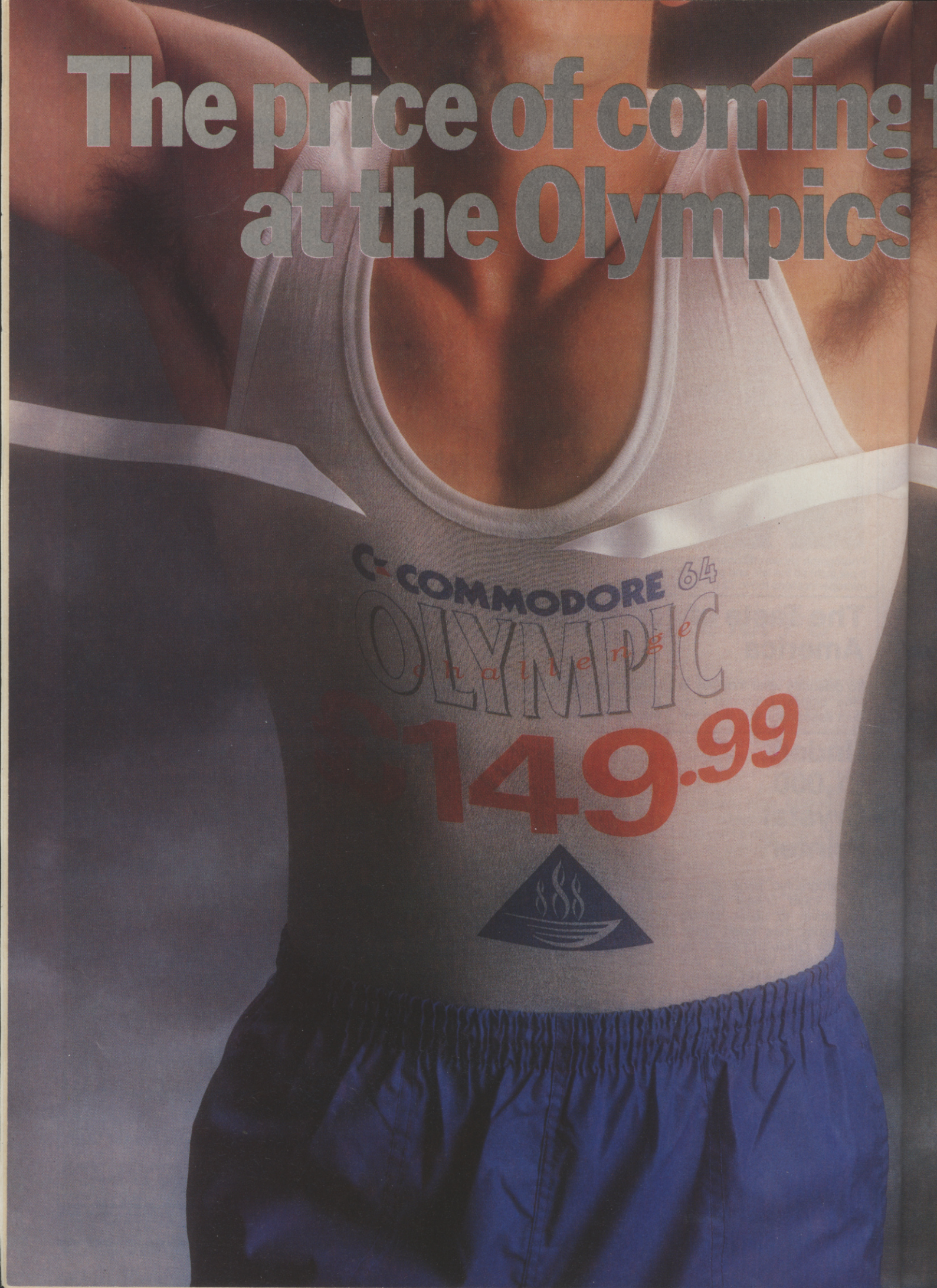
The games are World Class Leaderboard, Solomons Key, Sidearms and Supercycle. US Gold thinks The Taste of America provides a variety of games that will appeal to everybody and firmly establish Pepsi in the world of entertainment computer software.

Under £1,000 Crystal Printer

A Xerographic page printer using liquid crystal as an alternative to laser image technology has been launched by Qume at £995. The Crystal-Print WP and the Series II version (£1,495) are built around a Casio liquid crystal Xerographic engine and provide fast and quiet printing.

Both printers run at six pages a minute with a print resolution of 300×300 dots per inch, producing a print quality equal to the alternative Xerographic products which use a laser light source. The CrystalPrint units measure 15.7in wide, 13.4in deep and 9.1in high.




The price of coming
at the Olympics
COMMODORE 64
OLYMPIC
challenge
149.99

first

If you weren't selected for the Seoul Olympics, no need to feel out of the running.

Because everything you need to compete in all the events is right here with the Commodore 64 Olympic Challenge pack. And at only £149.99, your gold medal's practically in the bag.

Here's the C64 Olympic line-up...

* **C64 Computer, the latest version of the world's best-selling computer.**
* **Cassette unit, for simple loading of programs.**
* **Joystick to put you in complete control of screen action.**
* **Plus all the excitement of 10 great sporting games.**

On day one, you can use all your skills and reflexes to race against the clock in the track and field events. Or take up the challenge of world series baseball, weightlifting, football, tennis and the championship title fights.

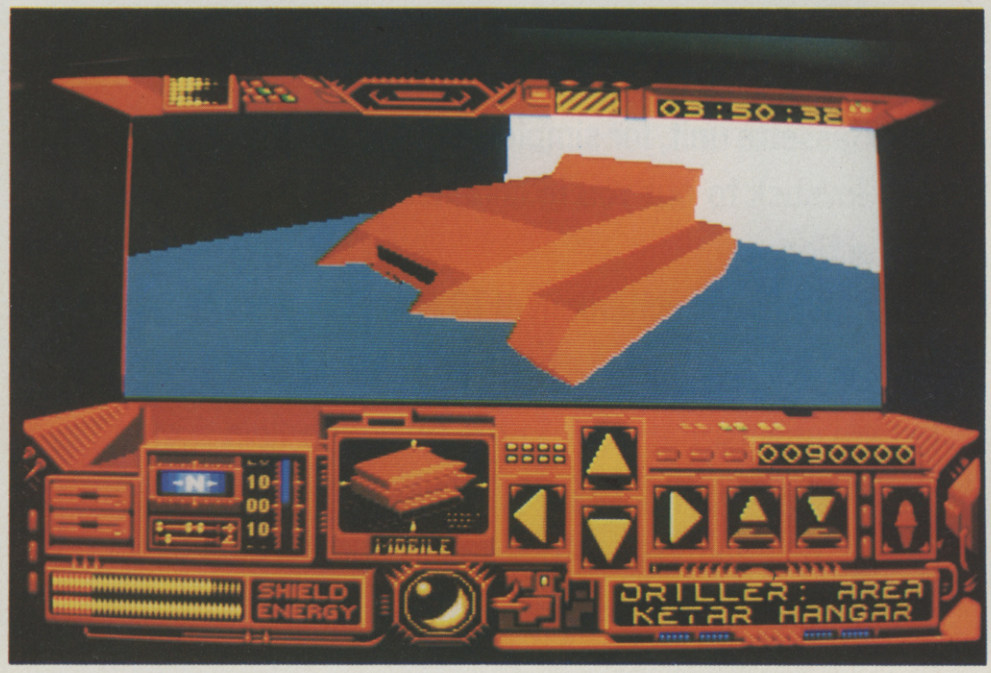
And when the Olympics are over, you can then go out and grab the best beat 'em ups, one-on-one, adventure and simulation games that really come alive on the C64.

There's only a few days to go before the opening ceremony, so make a dash for your local dealer and ask about the C64 Olympic Challenge pack. Or telephone 0800 800 477 for more details.

Commodore

Amiga Driller

Incentive's successful Driller, previously released on the C64, is to come out on the Amiga. Driller uses the solid 3D environment simulator, Freescape, which Incentive tell us "allows the user to move to any point in 3D space; look in any direction and see the view as if actually there." Sounds like magic doesn't it? Well, what it is really is advanced computer simulation techniques and Driller (we are told, because to tell the truth we are not going to count them!) gives you the possibility of over **20,000 billion** screens in each section. A free copy of the Guinness Book of Records to the first CCI reader who can prove he (or she, if she's crazy enough!) has done them all! The Amiga Driller will cost £24.95. For that many billions of screens it's a give away.



Lights! Camera! Action!

Aegis Development have released their new Desktop Presentation product, Lights! Camera! Action!, for the Amiga. Lights! Camera! Action! (LCA) combines pictures, animations, sampled sounds, and music into complete slideshow presentations. Retailing for $79.95, LCA uses files from any Amiga product which produces an IFF picture (including 4,096 colour HAM images), any ANIM format animation, IFF sampled sounds, and Aegis Sonix music scores. It is intended for presentation use in business, video production, education, trade shows, product demonstrations, advertising, and any application where a combination of graphics, animations and sound are required.

LCA requires an Amiga with one megabyte of RAM and two disk drives. Software supported includes: Aegis VideoScape 3D, Aegis Draw Plus, Aegis VideoTitler, Aegis Sonix, Aegis AudioMaster, Aegis Images, Impact!, The Director, DigiPaint, Deluxe Paint II, and any Amiga program which generates IFF images or ANIM animation files.

Level 9's Lancelot

An illustrated adventure game based on the legend of King Arthur is shortly to be unveiled by Level 9.

Lancelot is the second title to be released by the specialist software house under the exclusive Mandarin label – the first being the Time & Magik trilogy. The package contains three adventures – with over 60,000 words of text interspersed with high quality graphics on most disk versions. The adventure faithfully traces the legend from the founding of the Round Table through to the successful conclusion of the hunt for the Holy Grail.

Pete Austin of Level 9, himself an authority on King Arthur, insists that this is the "best game to date" from the company that is the acknowledged world leader in adventure software.

"The legends of King Arthur and his Knights of the Round Table are known to all", says Pete. "But it is a sad fact that most modern interpretations seem to owe nothing to the original tales.

"Most people will have seen software programs with Arthurian titles which turn out to involve 'Merlin' jumping from platform to platform while zapping orcs with fireball spells.

"Well, we got tired of waiting for someone else to do a proper job, so here's our faithful interpretation of the Arthurian saga".

Lancelot is to be released during the first week in September, price £14.95 for the C64 and £19.95 for the Amiga and pc.

All versions include a background story and a parchment map of Arthurian England.

2 Mega internal memory expansion for A500

Spirit's new S 500-2 Internal Memory Expansion Board is user expandable from 0K to 1/2, 1 & 2 megabytes of fast memory, requiring only 4 chips per half meg. The memory autoconfiguration is the standard Amiga expansion range with RAM on/off. An installation disk includes public domain programs such as recoverable RAM disk, file utility and more.

The memory board's low power consumption uses Amiga power. An optional external power configuration is included. The S 500-2 has new circuitry that is specifically designed to install comfortably above the motherboard, has no physical conflict with any existing components and fits under the radiation shield in the ventilation air flow. It is easily installed with no jumpers to attach and no soldering required.

The Missing Link

Leading printer buffer manufacturer, Micro Control Systems (MCS), has announced the introduction of what may be described as the computer world's missing link – a special interface (with optional memory) which enables all serial, parallel and IEEE-488 devices to be interconnected simply by the use of interchangeable plug-in units.

Called a Plug-a-Buffer, the new device comprises a compact base unit (and a free power supply) into which two interchangeable interfaces can be plugged – one for input, the other for output. Interfaces currently supported are Serial RS232, Parallel and IEEE-488 with others to be introduced in due course.

Once installed, Plug-a-Buffer can be used for interconversion (ie. serial to parallel) or for the connection of two similar interfaces possessing different set-up configurations (serial with hardware handshaking to serial with software handshaking, for example).

Plug-a-Buffer is available with a selection of usable memory sizes ranging from 8k to 512k accepting data from the computer at high speed before 'drip-feeding' it to the printer or plotter. A diagnostic facility indicates interface configurations and memory size.

The parallel interface is straightforward and is fitted with a standard 36-way Contronics connector.

The IEEE-488/HPIB interface can be configured as any device in the range 0-31 and as a Controller or Talker/Listener. A Commodore ASCII conversion switch permits use with older Commodore equipment.

The base unit (with 0 memory costs) £75. The base unit with a memory of, for example, 16k would cost £89, 64, costs £119 and the top model with 512k, £229. The interchangeable interfaces costs £18 for Parallel, £20 for Serial and £58 for IEEE.

Contact Micro Control Systems, Tel: 0602 391204.

S.S.I. Nominated for 6 awards

Strategic Simulations Inc, has received six final nominations (out of nine possible) for the 1987 Origins Awards. Sponsored by the Academy of Adventure Gaming Arts and Design, the Origins Awards are presented annually for outstanding achievement in the gaming field. Members of the Academy of Adventure Gaming and Design nominate products for the awards with the general public voting on the winners.

Nominated for Best Fantasy or Special Fiction Computer Game, 1987 are: The Eternal Dagger, Phantasie III, The Wrath of Nikademus, Realms of Darkness.

Nominated for Best Military or Strategy Game, 1987 are: Panzer Strike, Shiloh, Grant's Trail in the West, Sons of Liberty.

The winners will be announced during the Origins/GEN CON gaming convention in Milwaukee, Wisconsin, shortly.

Mirrorsoft releases

64 Sinbad the C64 version of this popular Amiga Cinemaware game is due out shortly. This Mirrorsoft tells us this contains all the atmosphere and excitement of the Amiga version. C64 users will be able to battle dark and mysterious forces in a fantastic universe that begs to be explored. They will face monsters and genies, pirates and princesses, tragedy and comedy in their attempts to save the Caliph of Damaron from a fate worse than death and get some witty remarks from attractive and somewhat capricious girls in the story (no, that is not Cathy Campos Mirrorsoft's seductive PA person!)

1 Meg Next

The Semiconductor Industry Association (SIA) has linked groups in Japan and Europe to develop a statistical software package which predicts changes in the chip market.

The software will use worldwide data to show the growth areas and enable manufacturers to predict demands.

The SIA says manufacturers will move from 256K dynamic random access memory chips which are currently in short supply to one megabyte Drams by the end of 1988.

Rocket Ranger

The Amiga version is now scheduled for release in the Autumn with the C64 version to follow in October. Rocket Ranger contains says Mirrorsoft 'all the action, romance, thrills and spills of the Saturday morning serials. (When were you last at the movies a.m. Saturday, Cathy?) With graphics and animation that exceeds any Cinemaware production to date in terms of quality'. Rocket Ranger looks set to interest any one looking for fast gameplay and who wants to push their machine to *it's* very limits.

Lords of the Rising Sun

Set in twelfth century Japan, the player is cast as the lead character in an historically accurate far Eastern Epic. Civil war has erupted and your bitter rivals, the Taira clan, have killed your father and subverted the emperor. In their attempts to redeem the family honour, they will command vast armies of samurai warriors, defend themselves against ninja assassins, negotiate alliances with other clans and confront enemies in personal combat in an all or nothing attempt to become Shogun. Featuring 'breathtaking graphics' and detailed, three screen wide map of medieval Japan. Lord of the Rising Sun is due for release later on this year initially on the Amiga with C64, version to follow.

£10,000 of good citizens

50 school children received over £10,000 worth of computing equipment prizes, for their winning entries to the Pictures from Numbers competition, organised by the World Wide Fund for Nature and sponsored by Citizen Europe Computer Printers.

The project was conceived by Citizen Europe and organised by WWF's educational experts to encourage children to think about environmental issues which reflect both urban and rural concerns. The competition was designed to enable teachers to use it as an incentive to explore young people's concerns through standard curriculum subjects ranging from Mathematics to English and Computer Sciences. Some teachers were able to collaborate, so that the project cut across several subject boundaries.

Robin Marriott, European Marketing Manager of Citizen Europe Ltd, said: "We wanted to create an awareness of the importance of exploiting the computer technology that is now available to schools. Citizen Europe is committed to making concrete contributions to raise computer consciousness, and combat some of the technophobia still prevalent among teachers, by improving computer training facilities and equipment.

'Pictures from Numbers' Awards
Primary Sector Winners
First Place – Northfield School, Watford, win £2,000 worth of computer vouchers from Citizen Europe
The winning school's project investigated the dental health of the girls in the school. The pupils designed a questionnaire relating to fillings, toothpaste choice, food and drink preferences and frequency of dental checks. The results of this were presented in computer generated pie and bar graphs.

The whole school was made aware of the project through questionnaires and displays. The project was stored on computer and the information presented using a variety of inventive computer generated.

EA's Powerdrome

Electronic Arts has announced the release of Powerdrome, its first original program written by a UK artist. Powerdrome is a futuristic racing simulation and the first computer entertainment project from Michael Powell. Powerdrome gives the player the chance to become a jet racer pilot competing in the Powerdrome XXIV against four pilots from other galaxies. At stake is the coveted Cyberneufe Trophy.

Powerdrome features fast moving solid 3D graphics which create "an amazing effect of speed and realistic sound effects of engines roaring, competitors screeching past and crashes and bangs as the five jet racers fly around the course." A special feature of Powerdrome is a two player option via a dual data link between two machines which allows the player to race against a friend.

The player can practice or race on any of the six available Powerdrome circuits or attempt the full Powerdrome season of six races. Each track is situated on a different planet with its own atmospheric conditions requiring careful adjustment of the player's craft to achieve peak performance. Each track has a unique feature and different weather conditions, including electrical storms with spectacular digitised lighting.

Powerdrome is promised for the Amiga in November at £24.95.

Michael Powell.

Rising concern about databanks

Research by the Data Protection Registrar shows that members of the public are becoming increasingly anxious about the amount of personal information held about them on computer files. This is revealed in the Registrar's latest report to Parliament published recently. The research indicates that the numbers expressing concern rose from 62% to 74% of the population during the year to March 1988. Some 95% of those questioned regarded privacy as either very important (66%) or quite important (29%).

Mr Eric Howe, the Registrar, commented: "The results of the research suggests there may be a growing unease on the part of the public. This unease is expressed in a decline in public confidence in many organisations to keep and use information responsibility".

He also pointed to the growing practice of building banks of information on the "lifestyle" of individuals for marketing purposes. Information may be collected for these databanks through documents associated with other activities – for example consumer surveys or product registration cards.

Mr. Howe says: "I have begun to receive complaints about these sorts of documents and will wish to see that the requirement in the First Data Protection Principle – that information shall be obtained fairly – is being properly complied with. I shall be particularly looking to see whether data users fully inform individuals as to why various items of information are required, what uses will be made of the information and to whom it will be disclosed.

"This is a new development in marketing and my office is currently engaged in discussions with companies in this field."

F.S.S.L

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BASIC 8

Unleash the hidden graphics power of your 128. At last, your Commodore 128 can rival the 16 bit micros! Imagine your 128 in 80 columns producing a resolution of 640 x 200 in mono and 640 x 192 in 16 colours without any additional hardware! (640 x 400 version available soon.) Sounds impossible? Not with Basic 8, the new graphics language extension.

Basic 8 adds over 50 Hi-Res graphic commands to C128 Basic. Just select one of the many graphics modes and draw 3-D lines, boxes, circles and a multitude of solid shapes with a single command. We've even added commands for windows, fonts, patterns and brushes.

To demonstrate the power and versatility of this graphics language, we have created Basic Paint, a flexible icon-based drawing application program. Basic Calc, a full featured spreadsheet and Basic Write a simple to use word processor with a multitude of fonts. Also included is an icon based desk-top utility which provides quick and convenient access to each of your own Basic 8 creations.

All this graphics potential is yours for **£34.95**, 64k Video RAM upgrade kit **£19.95** and The Beginners Guide to Basic 8 with disk **£19.95**.

1541/71 Disk Drive Alignment Package

Problems with your disk drive? The alignment package reports the alignment condition of the disk drive as you perform adjustments. On screen help is available while the program is running. Includes features for seed and head stop adjustment. Allows you to test each full and half track as you realign the drive. Complete instruction manual on aligning both 1571 and 1541 drives. Even includes instructions on how to load the alignment program when nothing else will load. Works on the C64, SX64 and 128 in 64 or 128 mode. **Only £24.95.**

1571 FIX ROM

Are you experiencing any of these problems with your 1571 disk drive, Errors when using Superbase? Device Not Present Errors? Major problems when 2 or more open files? Takes forever to recognize a flippy disk? If you have one or more of these problems then you need 1571 FIX ROM, developed by Commodore Inc USA, just plugs in, solves over 19 main problems. **Only £24.95.**

Commodore 1581 Disk Drive

The New Commodore 1581 drive is now available for the C128 or C64. This drive offers one megabyte of memory, THREE THOUSAND ONE HUNDRED AND SIXTY blocks free, (800K formatted capacity), and a very fast EIGHT

continued

You don't need a new computer to join in the desktop publishing revolution! With Page Builder and Page Illustrator from PATECH Software, your Commodore 128 can compose professional-looking pages.

Page Builder and Page Illustrator are stand alone programs; each with a specific function to perform. Whether used singly or as an unbeatable team, the Two Constructive Ideas are designed to make maximum use of the C128's native power. They were created by publishing professionals who put that power where you need it most – into real performance and utility, not bells and whistles.

Page Builder

Bring the power of personal publishing to your C128. Integrate text and graphics to construct everything from high quality newsletters to professional business forms and presentations. Layout and design is quick and straight forward import text created with your word processor. Wrap it around graphics created with Page Illustrator, then change the look by using a different font or repositioning graphics. **Only £49.95**

Page Illustrator

At last, an 80-column high-resolution drawing package that's powerful and easy to use. Create colourful graphics or have Page Illustrator assist you in drawing simple geometric figures. Create clip-art from any portion of the screen, then mirror, reverse, or flip it. Import graphics from popular drawing packages for your own creations. Page Illustrator is a window and Icon system presented in the Amiga Desktop style. **Only £29.95.**

THOUSAND Characters per second loading rate. Software for this new drive includes, VizaWrite Classic, HackPack, Petspeed, Oxford Pascal, CAD PAK, Chart Pack, Fontmaster, Spellmaster and much more. Using a package called Super 81 Utilities most software can simply be copied across to the new format. The drive is available for **£184.95.**

The CP/M Kit & Users Guide

The CP/M Kit introduces and explains the unknown, third mode of the C128. The CP/M Users Guide is a 300 page book by Abacus Software covering all aspects of CP/M. Subjects which include the system disk, resident commands and disk copying are described in detail. The CP/M kit contains over 20 CP/M programs including a word processor, chess game and a disk cataloguing program accompanied by a detailed guide to running programs in CP/M. The CP/M kit and Users Guide. **Only £34.95.**

Super Disk Utilities

The ultimate utilities disk for the 1571 disk drive and C128 computer. Copy whole disks with 1 or 2 drives, change disk format, perform CBM DOS, CP/M and MS-DOS utility functions, scratch, unscratch, lock and unlock files, write protect disk, contains disk editor, drive monitor, unique RAM writer and more. **Only £24.95.**

The Big Blue Reader

New from SOGWAP Software Inc., The Big Blue Reader is ideal for those who use IBM PC compatible computers at work and have the Commodore 128 or 64 at home. The Big Blue Reader is not an MS-DOS emulator, but rather a unique and easy way to transfer word processing, text and ASCII files between two totally different formats, Commodore and MS-DOS. The Big Blue Reader requires a 1571 on both the Commodore 128 and 64 and will not work with a 1541 or similar drive. **Only £34.95.**

The Drive Box

The drive box allows you to easily change the device number (8, 9, 10, or 11) of your 1541, 1571, 1570 or 128D computer. It will, as a bonus, allow you to bypass the write protect sensor, allowing you to write to the back side of the disk without cutting a notch. Installation requires a little soldering. **Only £19.95.**

● Merlin 128 Assembler	£49.95
Chartpack 128	£29.95
CADPAK 128	£29.95
Super C	£39.95
Cobol 128	£29.95
Super Pascal	£29.95
HackPack 128	£14.95
RAMDOS	£29.95
Petspeed 128	£14.95
Word Writer 128	£39.95
Swiftcalc 128	£39.95
Data Manager 128	£39.95
Fontmaster 128	£49.95
Commodore 128D	£374.95
1571 Disk Drive	£184.95
1901 Monitor	£210.95
Anatomy of 128	£9.95
Anatomy of 1571	£9.95
Peeks and Pokes	£9.95
CAD on 128	£9.95
Tricks and Tips	£9.95

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NewTek releases Digi-View 3.0

NewTek has announced that Digi-View 3.0, the software upgrade for the Digi-View hardware 4096 colour video capture system, is now available for the Amiga 500, 1000 and 2000. NewTek president, Tim Jenison, said, "Digi-View 3.0 adds all the features that users have been asking for, including new algorithms that push the graphics chip on the Amiga harder than ever."

The new features include overscan with a maximum of 768 × 480 resolution. This new mode allows for borderless screen images, perfect for desktop video applications. The new half-brite mode allows for detailed images with 64 colours. The most advanced new feature, line art mode, allows you to digitise any black and white line art, logo, or other detailed two coloured image perfectly, with no extraneous picture elements. This is accomplished with the use of advanced image processing techniques, previously found only in systems selling for over $20,000.

Digi-View digitised image.

Digi-View continues to be the best selling hardware peripheral, and the leading desktop video product for the Amiga. When combined with NewTek's best selling paint program Digi-Paint, says NewTek, Digi-View offers a digital retouching system with unparalleled price performance value. The suggested retail price for the Digi-View image capture system, including version 3.0 software, is £179.00.

Microprose goes Super X Better

Not content with providing the main attraction at last year's PCW Show, MicroProse said this year it is going one step better.

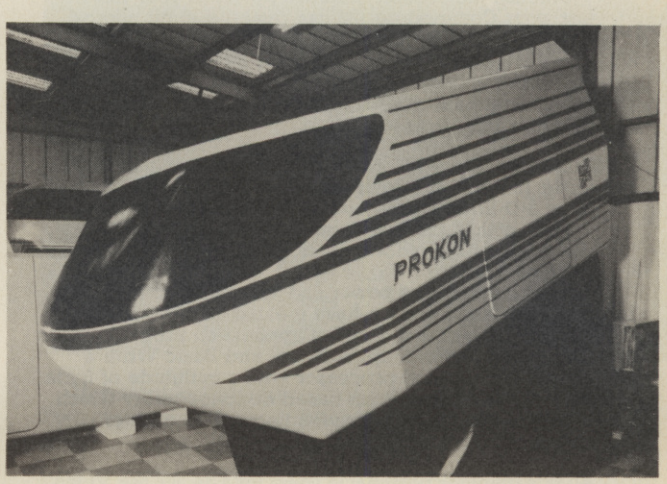
For the entire five day duration of the Earls Court PC Show, MicroProse will have what is regarded as the most thrilling and exciting development in the leisure industry this decade, Super X.

The multi-passenger simulator has stimulated massive interest wherever it has appeared in the world, as its sophisticated audio and visual computer controlled adventures bring a degree of realism never before experienced in artificial conditions.

The heart of the 14-seater Super X Prokon is computer-generated imagery produced by a million dollar computer. The effects are so lifelike that during your time on board the simulator it is hard to imagine that the sensations of rising, falling and rolling are not for real. In fact, it is easy to become convinced that the capsule has genuinely turned upside down.

The man responsible for bringing Super X reality to Earls Court, MicroProse' UK Managing Director Stewart Bell said: "This is undoubtedly the major attraction of the September show. I am just delighted that if is MicroProse who are bringing the Prokon simulator to the heart of London for all our trade customers to enjoy."

Meanwhile, as part of a special Summer and Autumn promotion with 230 of the leading WH Smith stores, MicroProse is also including invitations to ride Super X at the PC Show with all of its products sold through the chain between 16 August and 12 September 1988.



Erotic encounters of the Amiga kind

MicroIllusions has released Romantic Encounters at the Dome on the Amiga, an adult text adventure. Romantic Encounters at the Dome is say MI: "The ultimate text experience for "sensual singles" (or those pretending to be). Pursue a romantic rendezvous or erotic encounter ... Set yourself up for what you're after ... We promise you'll get what's coming to you."

Be romantic or reckless. Your candelight dinner could end up in a drunken brawl or could send you soaring to new heights." Well, if that's what turns you on...

10 years for virus makers?

Six US software industry trade groups campaigning for tough laws that could send the creator of a computer 'virus' to prison for up to 10 years.

Michael Odawa, and one of the founders of SDC – the Software Developments Council of America president of Simple Software, said: 'Computer viruses are not a joke. There is nothing benign about a computer. virus. If a virus got into a hospital system, it could potentially kill someone.'

The SDC is working with several law firms which have ofered their services free in drafting potential legislation that could be adopted nationwide.

The propsed penalties are: $1,000 fine or 3 months in prison for creating avirus that destroys data; a one-year prison term and a $10,000 fine for endangering publid health and safety; and 10 years in prison for any life-threatening effects of a computer virus.

The SDC is also working on software-based protection that could prevent a computer virus from infecting a system. 'I don't want to give out too many details. We are dealing with some very unstable and strange people,' said Odawa.

In Texas a man already faces a 10-year prison sentence for unleashing a virus at a brokerage company that destroyed over 168,000 files. Donald Burleson pleaded not guilty to charges under a 1985 Texas law that outlaws 'harmful access to a computer'.

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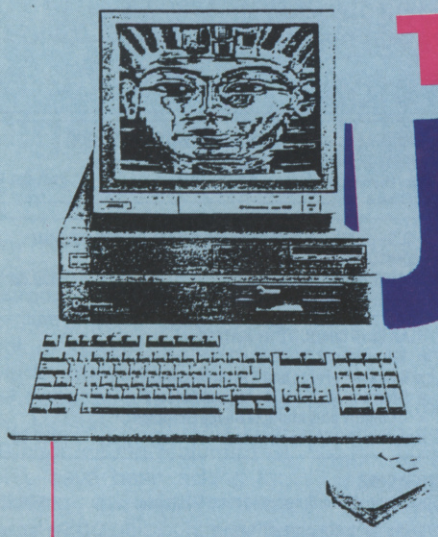
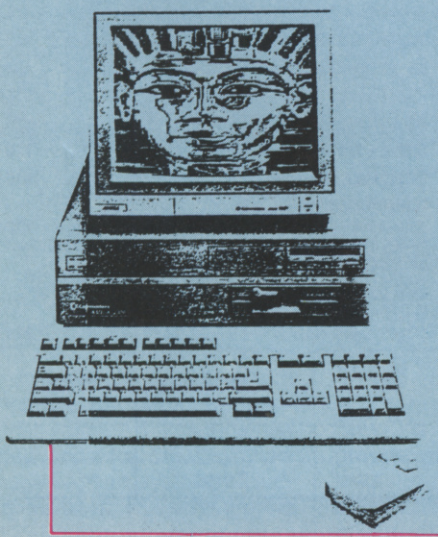


THE UNIX U

Buzzwords . . . the latest in the Commodore world is UNIX. Bill Donald enables you to keep up with the techies

Those readers who have read or heard of Commodore's plans for the Amiga family will know that the A2500UX variant will offer UNIX as standard. UNIX is currently one of those *buzzwords* in the Amiga and PC world and you will be hearing a lot more about it in the future. There is no question that UNIX is destined to become a permanent feature of personal computing, but what is UNIX and what can it do? This article will not be highly technical, but will provide you with a broad overview and perspective of UNIX. If nothing else, it should enable you to nod sagely at the appropriate moments in a conversation with some of the so-called techies when they trot out the term 'UNIX'.

UNIX is an operating system designed specifically for use on 16-bit and 32-bit hardware. The system functions more effectively on 32-bit processors, particularly those processors with a linear architecture. A linear architecture means that there is no segmentation of the processor address space – the processor can *see* and access the full address space directly without the intervention of any intermediate registers. The 68000 family has a linear architecture and the introduction to the personal computer mass-market of the 16/32-bit 68000 meant that UNIX could now move out of minicomputers into microcomputers.



> *"The story goes that a very obsolete and unused DEC PDP-7 was just lying around and someone wanted to run his program on it"*

A computer operating system is the software that manages and controls the resources of the overall computer system. In other words, the operating system supervises the interaction between the user and the machine. The operating system will run your program in response to your commands. It forms the foundation upon which applications such as word-processing, database or spreadsheet operations are developed and executed. The operating system determines the appearance of the computer to the user. For example, the early personal computer operating systems such as CP/M and its variant MS-DOS present the user with a very terse appearance – a blank screen and basic prompt and that is it. More sophisticated operating systems such as that provided on the Macintosh and Amiga provide an environment based upon graphical imagery to represent system functions and commands.

The history and development of UNIX is one of opportunism and luck. The original version of UNIX was developed by a small number of programmers at Bell Labs in New Jersey, USA during the late 1960s. The story goes that a very obsolete and unused DEC PDP-7 was just lying around and someone wanted to run his program on it. In order to achieve this, the PDP-7 required a set of software routines to support this program – legend has it that the program was called *Space Travel*!

These support routines were written in PDP-7 assembly language and served as the basis of UNIX. The name itself was derived from an earlier operating system called *Multics*, a multi-user system with the *uni* part of the name reflecting the single-user focus of the early versions of UNIX.

UNIX is closely intertwined with the C programming language and the connection stemmed from later developments of the original version. Recall that this first version of UNIX was written in PDP-7 assembly language. When a more sophisticated piece of hardware became available to the Bell Labs software engineers, a DEC PDP-11, a relatively new programming language called B was used as the vehicle to transport the UNIX operating system to the PDP-11. The PDP-11 minicomputer turned out to be a much more popular and flexible environment and enabled the refinement of the B language into the C language. This in turn led to additional features and capabilities being built into the rapidly burgeoning UNIX system. The principal advantage that C gave to UNIX was this ability to easily port the UNIX system onto other hardware. This was because C itself is well suited to getting down to the hardware coupled with a structured programming environment which made it ideal as a systems programming language.

At this point we have reached the late 1970s and UNIX was very well established on most makes of minicomputers and mainframes. AT&T, the parent company of Bell Labs, had taken very little

NIVERSE

interest in these developments and to a large extent UNIX was public domain software, particularly in USA university and college computer installations. AT&T made only a nominal charge for the licence and source code to UNIX and this helped spread the system throughout the world. A company named Onyx Systems first demonstrated UNIX on a 16-bit microcomputer at 1980 NCC (National Computer Conference) in the USA and from this stemmed the unparalleled growth and popularity of UNIX.

UNIX at this time had evolved into a stable but very large system. Because of the availability of the source code together with the increasing spread of the C language, the basic UNIX had grown through several versions. Part of the UNIX programming philosophy has always been to take various component parts and build upon them to create the desired function or feature. This gives the effect of UNIX being, in effect, one huge programmer's playground, since UNIX now runs to something like 10M bytes.

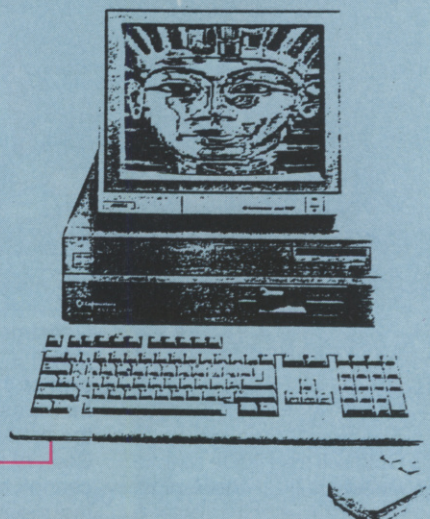
"Virtual memory means that the memory address does not physically exist but when the processor accesses this address, the system makes it appear that it actually does exist"

However, the downside to this is that anyone wanting to reduce the size of UNIX does so at their own risk because of this interaction between each element of system. Therefore to run UNIX, the first requirement is a hard disk, the second requirement is also hardware related.

The sheer size of UNIX has meant that while running it a regime of virtual memory is necessary. Virtual memory means that the memory address does not physically exist but when the processor accesses this address, the system makes it appear that it actually does exist.

To understand this concept, consider the 68000 processor. This device has an addressing space of 16M bytes. However, the financial cost, space and power requirements of such a large amount of RAM is prohibitive. By using memory-management hardware (MMU) the processor can be fooled into thinking that the full 16M bytes is out there when in fact there is only 1 or 2M bytes available. This is done by the MMU device quickly loading or *paging* into the available address space from the hard disk, the address that the processor requested. The 68010 is similar to the 68000 except that this device has a large element of software for virtual memory support already built into it, thus simplifying the hardware implementation. The 68030 processor has the complete hardware of memory-management fully integrated.

It was only after 1984 that these requirements of large capacity hard disks and sophisticated hardware specifications were beginning to take shape in the



continued on page 26

MicroProse Rises

MicroProse Software is now just a short time away from releasing what it believes to be is its major blockbusting product for 1988.

Million selling author Tom Clancy has entrusted the simulation specialists to create a superb entertainment package for all leading 8 and 16 bit computers based on his huge selling book 'Red Storm Rising' – the follow-up to the successful novel 'Hunt the Red October'.

MicroProse's co-founder, leading programmer and designer Sid Meier, has been working alongside technical advisor Larry Bond as well as military fiction writer Clancy to ensure Red Storm Rising offers the very highest level of realism, simulated action and gameplay excitement.

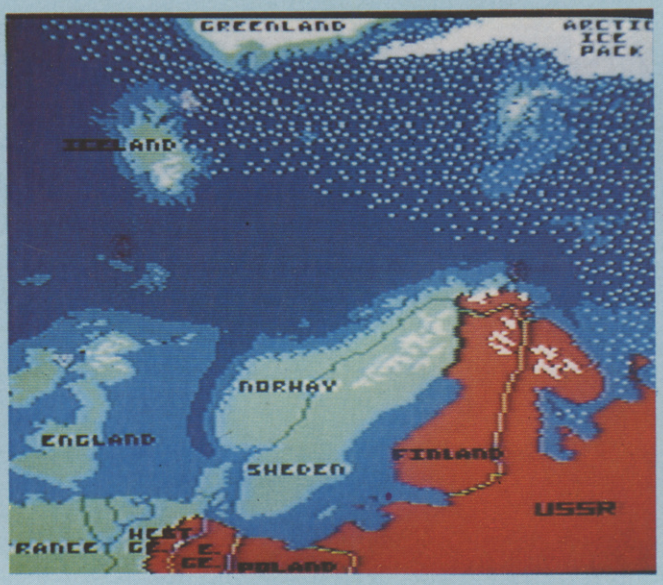
Red Storm Rising focuses on the tactical operations of an American nuclear attack submarine in World War III. From one of the book's missions, MicroProse has re-created the submarine commander's task to locate and destroy Soviet submarines as they leave their base near the Arctic Circle.

According to Meier, Red Storm Rising is far more advanced than MicroProse's previous submarine simulation Silent Service, as modern warfare means a far more sophisticated on-board sonar, computer and weapons system at the player's disposal. An example of this is Red Storm's "intelligent" torpedoes which are able to home in on their targets.

"The thrill of playing cat and mouse with another, equally sophisticated submarine can be fairly intense, as the player will have a lot of information to consider before making a decision," stated MicroProse UK managing director Stewart Bell.

"The three minds that have co-ordinated this project have an unmatched knowledge of not only the technical side but, of course, the actual realities of such a combat situation. The quality and realism in Red Storm Rising is stunning and will once again offer players of quality products many, many hours of entertainment."

Major Bill Stealey of Microprose with author Tom Clancy



Red Storm Rising will be available soon on the C64, at £14.95 (c) and £19.95 (d).

C128 CP/M RAM disk

Brown Boxes Inc and Herne Data Systems Ltd have announced the release of QDisk version 2.0. QDisk is a device driver for the Quick Brown Fox which allows it to be used as a non-volatile RAM disk in C128 CP/M mode. QDisk is totally application transparent and can be used with all standard CP/M software such as PIP, WordStar, dBase, etc. running on the C128 in CP/M mode.

The Quick Brown Fox is a battery packed CMOS static RAM cartridge for use with the C64 and C128 computers. It is available in 16k, 32k and 64k byte sizes. The internal lithium battery retains the contents of the RAM for up to ten years, even when the cartridge is unplugged from the computer. It is supplied with RAM disk software for use on a C64 and C128 (in native mode). With the introduction of QDisk, the speed and flexibility of a non-volatile RAM disk is now available for C128 CP/M mode also.

In addition to being able to use the entire 64k version as a single CP/M drive, QDisk allows partitioning of the 64k Quick Brown Fox into two 32k areas, either one of which can be used for C64 or C128 native mode applications, or both of which can be used as separate CP/M drives. Once the driver is installed, the Quick Brown Fox can be accessed as a normal CP/M disk drive. However, unlike the standard C128 CP/M RAM disk using the 1700/1750 RAM expansion unit, QDisk does not lose its contents when the computer is turned off. Programs and data files remain safely stored until needed and can be recalled in an instant.

Contact: Financial Systems Software. Tel: 0386 553153.

Questron II for Amiga

US Gold will shortly be releasing Questron II for the Amiga. Questron II begins where Questron ended, with the player's character in possession of the Evil Book of Magic that was stolen from Mantor the crazed magician. The Evil Book of Magic is so evil that it cannot be destroyed by normal means. Consequently, the player must journey back in time to Landor to ensure that the book is never created.

Once in Landor, towns, cathedrals, forests, tombs, and dungeons must be explored in the quest to stop the book from being created. Over 60 different types of creatures exist in Landor and many must be fought with weapons and magic spells. Magic spells include magic missile, fireball, sonic whine, and time sap. Questron II, is a stand alone game which can be played without prior knowledge of predecessor Questron and will sell for £24.99.

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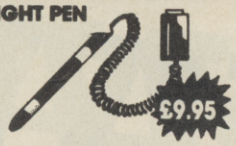

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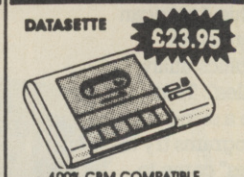

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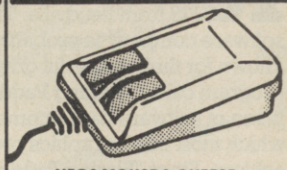

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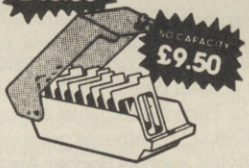

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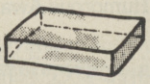

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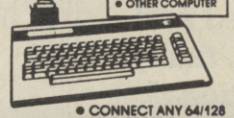

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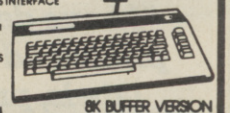

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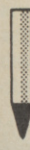

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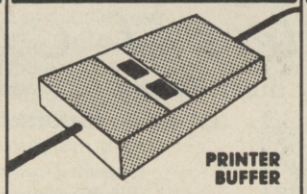

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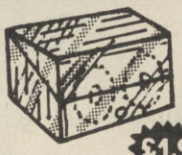

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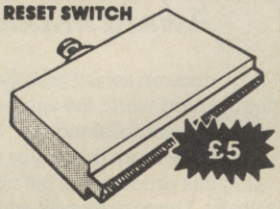

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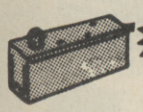

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AWARD PL

Really superb quality awards, certificates or notices for the C64 or C128 from Baudville. This American software company is probably better known for their masterful graphics utility program called "Blazing Paddles". That piece of software has become a standard which most other graphics programs try to achieve. Since "Blazing Paddles" came to our shores a couple of years ago Baudville have been working on this simple to use utility to create your own awards. Carrying on their traditions of high standards and well thought-out operating systems, this disk based program gives you fantastic high value quality printed awards every time.

Award Maker Plus, as its name implies, is a product that allows you to create Certificates, Diplomas, Honours etc. that can be presented to a person, club or team to give a long lasting keepsake to be displayed commemorating an honour in a particular event. These can be serious for school activities, business or home or even just for fun.

"I have designed and printed adverts, fancy labels, promotional literature, dance tickets, birthday cards, all using Award Maker Plus"

Produce an award to show your thanks for the hard work, the extra effort, or that special accomplishment . . . but there are quite a few more things you can produce using this product that the manual does not tell you. I have designed and printed adverts, fancy labels, promotional literature, dance tickets, birthday cards, all using Award Maker Plus. If you can get access to a photocopying machine then it is an easy job making copies of the original such as dance tickets etc.

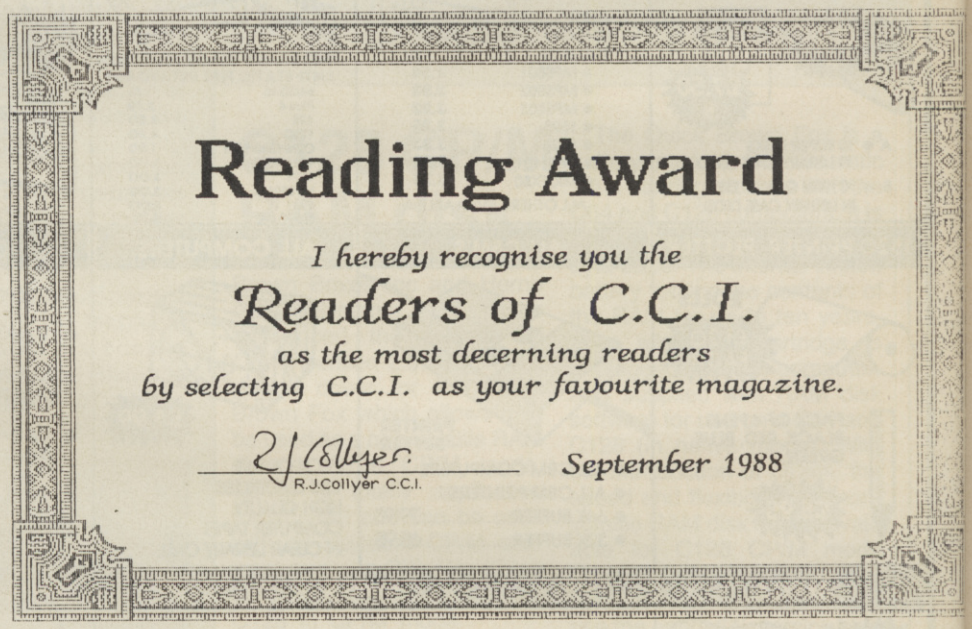
The complete package comes with two double sided disks which contain the main menu and all the sample designs and borders. These samples are printed in a brochure to show you how the finished product looks. Each design has a number to help you choose easily. Along with the many designs you also have the option of choosing four different typestyles. These are Old English, Script, Book Serif or Modern. As usual with certificates they have a very decorative border surround. A range of ten border styles is available. However, if you already own "Print Shop" it is possible to use their clip art graphics repeated around the edge of your award giving an incredible range of styles.

There are, in total , 286 award text styles that you can choose from. These begin with 46 different Academic Awards . . . you know the sort of thing . . . Geography Award, History Award, etc. To add a bit of fun there are Family Awards styles, 12 in all such as Official Best Friend, Anniversary Award or Parental Express Award.

Sporting achievements get a total of 150 varied styles, such as Soccer Award, Swimming Award, School Record, First Place or Most Improved Awards etc. There are also Humorous Awards and these are great fun. Present your friends with an award for being late or a Thank God It's Friday Award . . . anything that may have happened recently that deserves a funny award.

Nearly all the awards mentioned above have a descriptive graphic symbol incorporated into them to show the particular subject or event such as a map of the world for the Geography Award. All of them are well drawn and look good. These ready-made award styles are all well and good for the normal kind of thing but what do you do if you want an award for "Rich Picking . . . the most improved surfer of 1988"? (Could that be Bob 'Bigwave' Collyer? Ed.) To create such an award there are another 64 different styles at your disposal. With each of these you can create your own titles so it becomes a simple matter of thinking up your new award. It is with these that you can turn just about any good idea into a well presented professional looking document.

The program works using a menu driven module divided into five main parts. Firstly



MAKER

US

choose an award design number, select a border style, typestyle, type in your text (which is automatically centred), finally print out the finished product. Each step is simple to follow and mostly automatic. The printer set up is saved to disk and becomes the default each time you boot up. A total of 45 different printers are catered for along with nine different interfaces plus the ability to send special control characters to your printer so, if like me you own a non-Commodore printer, there should be no problems with the configuration.

The end result is obviously the most important feature of this package. To give an authentic looking award you should use French Parchment paper. This is obtainable from Baudville direct but I think you may find something suitable from your local art shop suppliers. 20 self adhesive gold seals are supplied free with the program, these add the final touch to any award, more of these are obtainable also from Baudville direct.

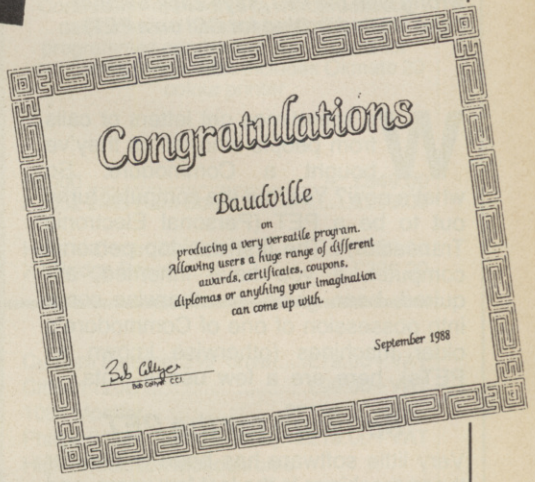
"Each step is simple to follow and mostly automatic. The printer set up is saved to disk and becomes the default each time you boot up"

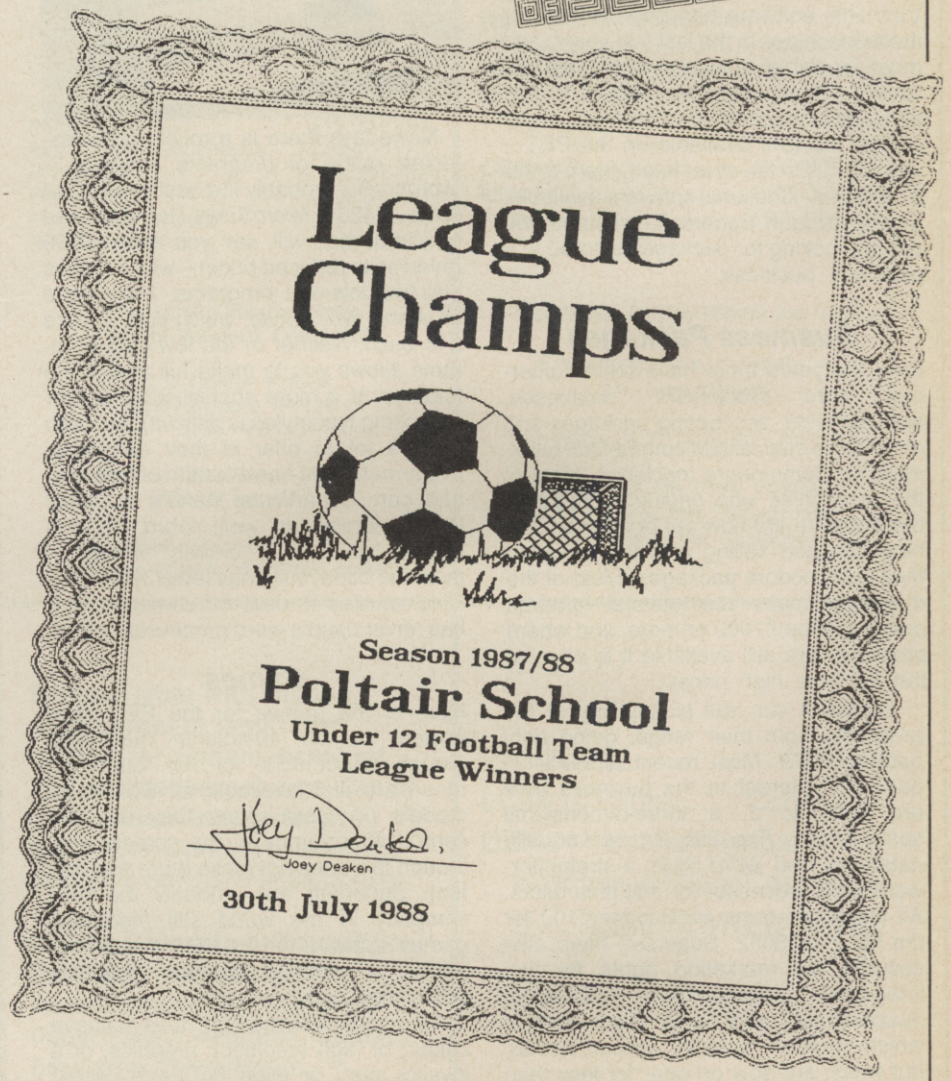
The only comment I have to say regarding the printed result is BRILLIANT! The quality is nearly as good as you get from a laser printer. It takes quite a long time for the printer head to move down the sheet travelling across time and time again for greater density. Despite the time taken it is well worth it for the extra clarity of text. Another option is available if you have a colour printer, Award Maker Plus gives you the choice of printing the border in a variety of colours, sixteen in total! All the borders have a lighter density than the text, allowing the text to stand out from the surrounding borders.

This piece of software won the 1988 Classroom Computer Learning Software Award of Excellence. If that sounds a little pretentious, well it probably is, as they might have produced that award themselves using this product! However, in my mind, Award Maker Plus far outstrips the competition with a utility well worth every penny. I give it my official seal of approval.

B.C.

Contact: Financial Systems Software Ltd, 18 High Street, Pershore, Worcester WR10 1BG. Tel: (0386) 553153. Price: £24.95





Feature

WHAT CAN I DO WITH MY OLD (NEW) COMMODORE?

CBM have just released a whole new range of IBM compatible PCs but there is nothing wrong with the PET, says Zack Skinner (who started writing for CCI on a PET)

We sometimes get letters or calls from people who tell us they've bought a Commodore. So what's new? Yes, but the computer turns out to be a PET (Personal Electronic Transactor)!! The first desktop personal computer. If you have inherited, acquired, been given, or otherwise come into possession of one of Commodore's older machines (otherwise known as PETs), here are a few useful hints.

Software for the PET

Very little software has been written for these machines in the last few years, and most available software is of 1980-82 vintage. Don't, therefore, expect to find versions of programs that have just come out for the IBM available on the PET – you won't. On the other hand, there is still a lot of very functional software available, mainly through Supersoft, provided you are not looking for packages tailored to a particular business.

Business Packages

Over the years there have been numerous word processors, databases, spreadsheets, accounting packages and other more specialised commercial packages for Commodore machines. Most of the companies who originally produced this software are now out of business, or have stopped selling and/or supporting their Commodore packages. Most of the major packages cost several hundred pounds, often £1000 or more, and where programs are still available it is often at the old very high prices.

Supersoft can still supply any of the programs from their range, going right back to 1979. Most recent products of particular interest to the business user are *Busicalc 3*, a three-dimensional spreadsheet, *Flex-File 2.1*, a versatile database, and *Word Style*, a straightforward word processor for first time users. All these programs cost under £100 for the 4032 or 8032. Supersoft have also secured the marketing rights for two integrated accounting packages, *Accountability* and *Super Exec*, both of which originally sold for around £1000, but which are now on offer for less than £200.

Word Processing

The Commodore PET always had a reputation for being a good computer for word processing. This came about partly because of the wide range of word processing programs available, partly because the exceptionally clear and steady display makes it feasible to sit in front of the computer for hours on end, and partly because the hardware is particularly well-suited to word processing.

Nowadays there is a much more restricted range of programs available – *Wordcraft* is probably the best known, but costs £425, *MicroScript* is fast and powerful, but will set you back £299 (even at its reduced price) – which leaves just two low-end programs, *Papermate Plus* and *Word Style*, which cost a mere £45 each. Neither of the low-cost programs allows you to make full use of the features of a more sophisticated printer (changing typestyles is difficult), but both have a lot to offer in their own way. *Papermate Plus* has a wealth of features, and can in particular handle standard letters particularly well; *Word Style* is slicker, since it is entirely written in machine code, but it has fewer features – which makes it ideal for someone who has never used a word processor before.

Games

Most of the games for the PET were written for the 40-column machines, though about 75% of the Supersoft range are also available for 80-column models (in most cases they use the central 40 columns of the screen only, though this does not make them any less fun). Supersoft are probably the only company in the world still producing games software for the PET, though old stocks of other companies' products sometimes can be found.

Remember that the PET does not have colour, or high resolution graphics, or a joystick port, or even (in some cases) sound. Don't expect, therefore, to find games of a similar standard to 1988 releases for the Commodore 64 or the Amiga. On the other hand, most of the games are extremely well-designed within the limitations of the machines, and can be just as much fun to play. Particularly recommended from the Supersoft catalogue are *Scramble, Super Glooper, Blakatak, Cosmic Bandit, Halls of Death* and the range of adventure games.

Peripherals

If you don't have a disk drive or a printer, you will probably be limited to playing games. However, it is possible to buy second-hand (and sometimes new) printers and disk drives, at prices from £150 to £500 or more, depending upon the model. Again Supersoft are the main source for hardware, having bought a large part of the stock from Commodore's former warehouse at Corby.

Repairs

Availability of spare parts is not really a problem, except for printers, which in virtually every case were not actually made by Commodore. Again, Supersoft are the best bet, since they can find most parts somewhere in their Peterborough warehouse. Typically repairs cost from £60 to £75, but can go higher when machines have been particularly badly treated, or when repairs have been attempted by amateurs. The most expensive item you are likely to need at some stage is a replacement disk drive head, which could set you back well over £100 (the 8250-LP drive is most susceptible to head problems).

Disks, Ribbons and other Consumables

There is no problem in this area at all. The Commodore drives use standard diskettes, and ribbons for all models of printer are still produced, in many cases by several manufacturers. All Commodore PET printers take paper in one of the two standard sizes, and standard C12 or C15 cassettes are fine for tape-based systems. Don't buy disk head cleaning kits; at best they will be a waste of money, at worst they will damage your equipment. However, cassette heads should be regularly cleaned with solvent, and demagnetised.

So if someone offers you a PET cheap, my advice is take it. Even if you don't use it you might be able, one day, to sell it to the Science Museum. It made history in its time.

Z.M.S.

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THE UNIX UNIVERSE

continued from page 19

personal computer market. A demonstration of the differences between UNIX and what was available in 1984 is shown below:

System	CP/M	MS-DOS	UNIX
Size (Mbytes)	0.1	0.25	8.0
Commands/Utilities	10	30	>200

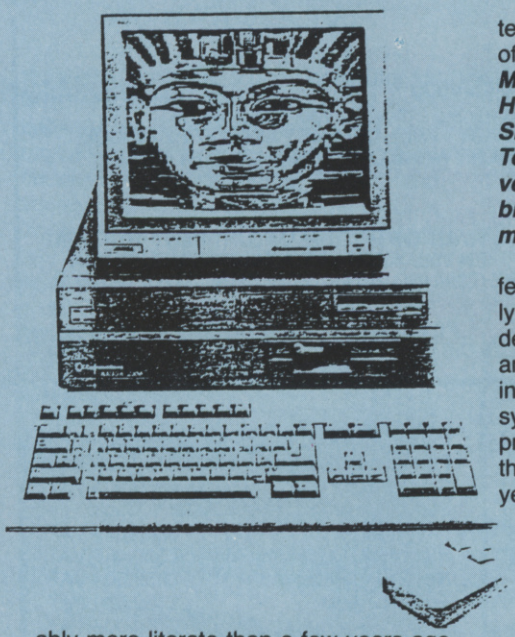
A further consideration about UNIX in terms of the hardware at the personal computer level was that UNIX had clearly evolved into a multi-user operating system. This was all part and parcel of the minicomputer environment which had spawned UNIX. However, in personal computers, the emphasis is on the single-user concept rather than a multi-user system. The limitations of the existing hardware determines this in terms of memory size, processor clock speed, disk capacity and I/O support devices. Not least there is a financial consideration. It was felt that the personal computer market in the mid 1980s would not support any type of hardware costing close on £10,000 per unit.

"Everyone said yes, a lovely machine, but where is the software? And quickly exited stage right when presented with the listed price"

Apple Computer had discovered this rather painful fact in 1984 with the introduction of the 68000-based LISA. This machine was the precursor of the Macintosh and introduced the then novel feature of WIMPs (windows, icons and mouse) to the market. Everyone said yes, a lovely machine, but where is the software? And quickly exited stage right when presented with the listed price.

The increased availability of more powerful processors such as the 68010 and 68020 meant that the supporting hardware of memory management and fast I/O were now within easy reach. The only two elements still remaining in the way was the cost of RAM and hard disks.

In many respects the development and growth of personal computers has been dictated by what the hardware manufacturers made available. Unfortunately for them this is no longer the case, for example look at the way in which the IBM PS/2 has flopped, despite the hype. One possible reason for this change is that the audience for computers is considerably more literate than a few years ago. In addition, very many computer science graduates have cut their teeth on UNIX systems, thus it is a case of the better the devil you know.



UNIX has been through several versions since its inception. These also illustrate the growth of the system to what it is today. The versions are summarised below:

Sixth Edition
This was the first version to be generally licensed to educational sites, mainly universities.

Seventh Edition (Version 7)
This version has the distinction of being the first to be licenced commercially and is generally the most common on minicomputers.

PWB (Programmers Workbench)
This is a specialised version which was developed by Bell Labs for large-scale software development activities.

System III
This version is really an update of Version 7 and was made available in late 1981.

System V
This version is the version that will appear on the Amiga 2500UX and was introduced in January 1983. It features very much enhanced process-to-process communications and overall performance to take advantage of 32-bit microprocessors.

So, if you want to start studying UNIX, make sure that the books that you purchase are concerned with UNIX System V. The basic features that UNIX offers today are:

Multi-Tasking/Multi-User Operation, Hierarchical File System, The UNIX Shell, Pipes, Programmers Utilities, Text Processing Tools, Software Development Tools, Source Code Portability, Maturity and Voluminous Documentation.

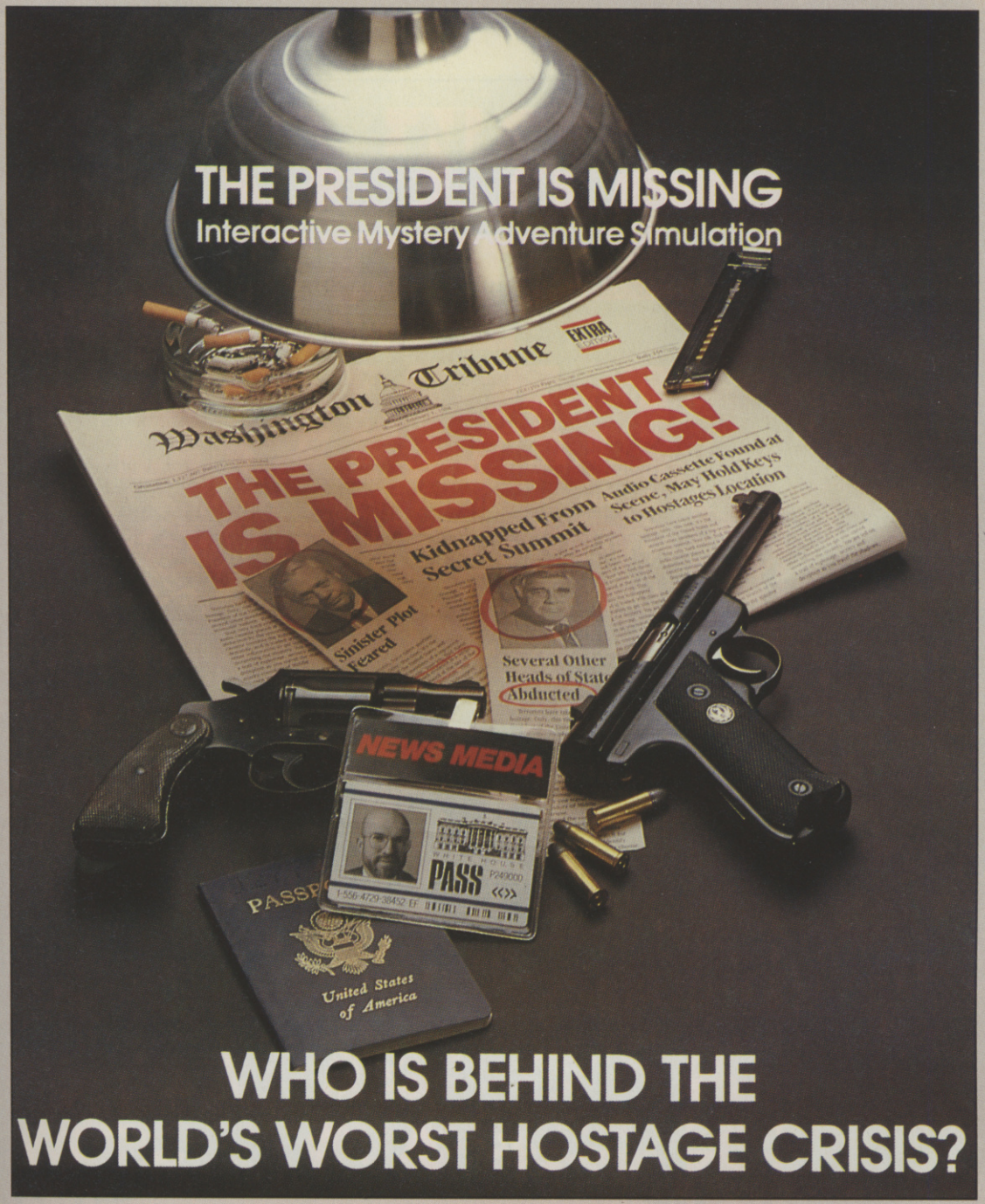
You will note that many of these features already exist in the Amiga family. Indeed, the similarities are no accident. The Amiga was built and designed around the C programming language. It inherited a UNIX-like hierarchical filing system in AmigaDOS and not least, it provides multi-tasking through employing the most sophisticated operating system yet seen on a personal computer.

If you want to learn more about UNIX, the following list is a suggested reading list from a selection on my own bookshelf. I have included the ISBN details so that any bookshop will be able to order them for you.

UNIX System V User's Reference Manual ISBN 013-940487-2
UNIX System V User's Guide 2nd Edition ISBN 013-940545-3
UNIX System V Programmer's Reference Manual ISBN 013-940479-1
UNIX System V Programmer's Guide ISBN 013-940438-4
UNIX System V Network Programmer's Guide ISBN 013-940461-9
UNIX System V Streams Programmer's Guide ISBN 013-940537-2
UNIX System V Streams Primer ISBN 013-940529-1
UNIX System V Utilities Release Notes ISBN 013-940552-6
(All of the above are the official AT&T documentation)
UNIX for Super-Users ISBN 0-201-14228-7
Text Processing and Typesetting with UNIX ISBN 0-201-14219-8
The UNIX System V Environment ISBN 0-201-18484-2
UNIX System Programming ISBN 0-201-12919-1

The Amiga and UNIX together offers probably the greatest range and scope for both users and programmers alike. You will be hearing more of it, that you can be sure.

B.D.



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Feature

ART OF THE LANCE

It is not surprising that role-playing on computer games and also in its other multifarious forms is becoming more and more popular. Not only is the generation that first had computers in their own rooms getting older and demanding more than just shoot 'em ups but also some of the really creative people who previously might have looked down on role-playing are now becoming involved. They are people who are capable of all sorts of exciting expressions of their talent; whether it is in programming games like SSI's 'Heroes of the Lance' or 'Pools of Radiance' or creating the accessories that role players demand to add realism to their play. (We have heard of 30 sided dice!)

One of the areas where high levels of talent is already to be found is in the books that go with the AD and D material. A book that has reached us which will attract all players of the 'Heroes of the Lance' genre is based on the fantasy best seller 'The Dragon Lance Saga' and is called, unsurprisingly, 'The Art of the Dragon Lance Saga'.

The quality of the imagination and draughtsmanship that the illustrations in the book demonstate is absolutely stunning. These are pictures of an eye-magnetising hyperrealism. Within their witches and warriors, castles and monsters context, they can reasonably be compared to the genius of the between-the-world-wars surrealist artists whose paintings now decorate the walls of art galleries and museums around the world.

'The Art of the Dragon Lance Saga'
By M. Weis and T. Hickman
TSR UK Ltd.,
ISBN: 0–88038–447–6
Price £9.99

Interestingly, in the illustrations of this book, as with much role-playing, it is the macho man – the bulging muscled, sword-bearing, hairy-chested hero – that dominates. I say interestingly because the two people credited in this book with being responsible for the cult of Dragon Lance are both feminine – Margaret Weis – who edited the original series and Tracey Hickman who wrote the initial tale called 'Eye of the Dragon'. One wonders what the feminists make of the sexily-draped, full breasted heroines and slaves who decorate the pages and the stories of the role-playing world.

Perhaps sometime in the not-too-distant future computers and its paint boxes will be able to provide art of the kind that this splendid book offers. Until then, if you want a feast for your eyes, beg borrow or steal a copy of 'The Art of the Dragon Lance Saga'. You can't have mine though, I'm keeping it under lock and key. **A.M.**

DUE TO A PRINTING ERROR LAST MONTH, TYPE ON THIS PAGE WAS ILLEGIBLE SO HERE IT IS AGAIN – READABLE THIS TIME.

The Best New Science Fiction

Gardner Dozois (Robinson £4.95)

Anthologies of SF seem to come out at least once every couple of months and 'The Best New Science Fiction', (edited by Gardner Dozois, is one that makes its appearance each year. This edition is a collection of tales by American authors and, although I must admit that some of the names are new to me I am sure, on this showing, that a few are destined to become much better known.

Some of the stories are very good indeed although they do not all come under what I would call the true SF banner. A few are more like Fantasy and some are just honest-to-goodness, straightforward, short stories. The book is none the worse for that but I feel that calling it the Best New *Science* Fiction is cheating a bit.

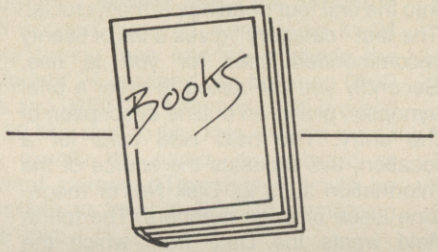
For example 'Surviving' by Judith Moffett is about a child brought up by chimpanzees after its parents are killed in a plane crash in the African jungle and how it reacts to society after being rescued. Yes, I know it sounds like 'Tarzan' but, take it from me, this story is entirely different. To start with this child is a girl and, seventeen years on, she has an affair with a psychologist who becomes interested in her case and the psychologist in question is woman. I can't honestly say 'Survival' is what most people think of as SF, but it is an example of what a good short story should be. Taut, tense and gripping.

The authentic article is represented by 'Fiddling For Water Buffaloes'. Somtow Sucharitkul, the author, is as unusual as his story. Born in Bangkok, educated at Eton and Cambridge, he is multi-lingual and multi-talented. As well as writing SF – he received the Daedalus Award in 1986 for 'The Shattered Horses' – he is also an internationally renowned avant-garde composer whose works have been performed world-wide. 'Fiddling' tells of two Thai brothers who run a movie theatre and specialise in dubbing American films into their native language. One of the brothers gets 'taken over' by aliens, the other falls for an American archaeologist and the whole thing is overseen by their maternal grandmother who spends her time making mobiles, pottery and trouble. It is funny, witty and clever.

Included in the anthology are stories by such SF stalwarts as Orson Scott Card, Greg Bear and Robert Silverberg and, as one would expect, they run true to their usual excellent form.

The best story? It depends on your own taste and judgement, but my vote goes to 'R&R', by Lucius Shepherd. This is a brilliantly evocative description of a civil war, sometime in the future, in Guatemala, in which the USA is intervening, (for Guatemala, should we read Nicaragua?) The hero, David Mingolla, and two 'buddies', are all on leave from the front line and, sensibly it seems to me, none want to return to the fighting. Their severn days rest and relaxation, the 'R&R' of the title, is being spent in a seedy shanty town and, although the three separate for a time, they are eventually – through events over which they have no control – brought together for a bloody conclusion to the story. It is so well written that one can almost feel the oppressive heat and claustrophobic atmosphere of the encroaching jungle.

'The Best New Science Fiction' is the kind of book to take away on holiday and dip into when you're sunning yourself on the sand. At 615 pages and priced at only £4.95, it is a bargain.



The Deep Range

Arthur C. Clarke

(Victor Gollancz £2.95)

Walter Franklin, ex-chief engineer of a liner on the Martian run, suffering from astrophobia, caused by an accident while repairing his ship in space, is re-trained as a warden with the Bureau of Whales. The Bureau controls the farming of the seas – plankton-rich savannahs, which supply protein, and herds of whales which provide oil, meat, fertiliser and other basic products for the world of the 21st century's inhabitants. For Arthur Clarke's story is set in an era of the World State – and an ideal place it seems to be. No wars, democratic government of the five billion people of the global society and – thanks to the whales – no hunger anywhere.

'The Deep Range' by Arthur C. Clarke, could almost be called the 'Save the Whale' of the 21st century.

'The Deep Range' is an unusual Arthur C. Clarke book, for much of the actin takes place not in the stratosphere, or on some alien planet, but underwater as Walter Franklin patrols the oceans in his mini-submarine. Various crises occur during his travels and there is a small sub-plot concerning Walter's first wife and his two young sons on Mars whom, because of his astrophobia, (fear of space travel), he can no longer visit. He, therefore, has to build a new life for himself on Earth and when he meets icthyologist – a fish expert to you and me – Indra Langenburg, his emotional needs are satisfied. He marries her and starts a family but his relationship towards Indra and his children is very much a minor thread in the plot. The same can be said of his friendship with Don Burley, another Warden of the Seas who, at the beginning of the story, is his mentor and guide and who swiftly becomes his closest – indeed almost his only – companion.

But, as descriptive as Clarke's writing is, 'The Deep Range' still has the feel of what it originally started out in life as – a short story. One which was first published in Frederic Pohl's *Star Science Fiction* series and which has now been padded out to make it into a full-length novel.

It is as if the author has decided to extend this short story to project his thoughts and feelings on ecology in general, and conservation of the whales in particular, to the world at large and just throw in items like a giant squid, killer whales, an undersea earthquake and a trapped passenger submarine for good measure and dramatic effect.

To be honest, now and again I found myself yawning over the pages, not something I usually find when reading a Clarke book. But, I suppose, there is always a first time.

Arthur C. Clarke obviously has very strong feelings about whale conservation but, this time, it seems that he has let his emotions take over his story-telling ability to the detriment of the content of the novel. The usual hi-tech knowledge is still evident, indeed, sometimes it seemed as if the reader was being given a lecture on how to survive the dangers of the deep *à la* Jacques Costeau, but I feel compelled to say – and here, forgive me, if I sound patronisingly like the teacher who has to mark a disappointing essay by a star pupil – that 'The Deep Range' is not, I feel, up to Arthur's usual standard.

D.M.

PROGRAMMERS NOTEBOOK 128

A high speed data storage and retrieval system designed specifically for the programmer! This database program comes from Free Spirit Software Inc and was written by Mark Brannon. This very talented writer has been responsible for many other 128 utility software such as Super Disk Utilities and Super Disk Librarian. Both of these programs were written to maximise the tremendous speed and power of the 128. Here we have another great utility with the same power – the Programmers Notebook. Any kind of information or especially programming routines can be stored away for instant retrieval using this neat package.

With the Programmers Notebook, you can develop a specialised programming database tailored to suit your own needs. It will provide a means of indexing and cross referencing of your favourite short programming routines, computer magazine articles, reference book details or any other information. To get your hands on snippets that you have saved the program will conduct tailored searches of the entire database in just seconds, looking for the information you select. The database can be compiled, sorted, displayed or printed out in almost any format you desire.

I must say here that you will need an 80 column monitor or modulator to view the text but all of Commodore's disk drives are catered for including the latest 1581s. This is a menu driven program allowing data to be entered easily and then quickly manipulated. Across the top of the screen there is a command bar which continuously displays all the commands available at any given time. With the 128's "Help" key which displays help for a particular command in use at any time it's not necessary to memorise any hidden commands.

Any good database filing system has three main working functions. These are 1) Input of data; 2) Manipulation of data; 3) Retrieval or printing results. Taking each of these functions one at a time, let us start with Input.

Adding Records

The Programmers Notebook will store up to 720 individual records on one 1571 data disk or 500 records, if you have a 1570 or 1541 drive. When booted the program will request that the data disk be inserted into the active drive; this is the disk onto which all your records will be stored. When you first run the program you will be asked to create a data disk which is used subsequently when prompted each time you use the program. Four main field category headings are used as the basis of later data searches, so input into the first four headings is most crucial. The first "category" gives a list of twenty recommended titles for you to use. Secondly you are asked to enter a brief synopsis, giving an outline description of the entry. The next field asks for a location, this requests the source of the information such as Disk No. or magazine issue or page numbers. The fourth field wants the Date from which the information was gathered. Finally in goes all the guts to the record. This can be almost anything, but for the programmer the possibilities are endless, routines, tips, problems or solutions so long as it is useful it will do.

"Following simple on screen prompts gives you a printout, and there you have it, hard copy of just one record through to a global printout of all and every one"

Each sort field has a limit of 50 characters except the date which has 10. Keeping details as brief as possible in these fields will speed up all subsequent searches. The main text field is limited to 237 characters and will be sufficient in most cases but you can always use part 1 and part 2 etc. to overcome any problems.

Record Search

To search through your database for any information you select Search from the command bar. Then it is a simple matter of choosing which field to search through, inputting your topic you wish to find. Wild card searches can be used to tailor the screen output to exactly what you are looking for. For example, to find information from the August 88 issue of a magazine (preferably *CCI* of course!) about Hi-res graphics on the C128. You would select the search option and enter C128. Then enter Hi-res graphics for synopsis and August 88 for the date. Each record matching these conditions will then be displayed.

As each record is displayed you have the option to page through them or printing them.

Printing Records

All Commodore ready printers are supported, but just about any interface + printer set up correctly will do. At the command bar select Print Notebook. The category list is again displayed for you to choose your record/records. Following simple on screen prompts gives you a printout, and there you have it, hard copy of just one record through to a global printout of all and every one.

Although the basis of this program resembles an ordinary database, I believe that we have here a great idea for programmers, enabling the least organised to keep and maintain a vast source of easily retrievable information. A saving of time and using computer resources to the full.

B.C.

Contact: Financial Systems Software Ltd, 18 High Street, Pershore, Worcester WR10 1BG. Tel: 0386 553153.
Price: £24.95

TIMETABLE

Have you got a 128 – or even a 64? Don't think of it as a computer, ride with Peter McDonald on it for a trip to Manchester and back.

This article is intended primarily for those who are just learning to program on the C128, and want to enter a listing which is not too long and will be some sort of use to them. Timetable is not offered as the slickest ever program. But it may interest the non-expert to see how another non-expert tackled the task.

The ostensible purpose of the program is to provide a rail timetable. But the underlying aim is an easy-to-copy method of retrieving a certain type of information, of which a timetable happens to be a convenient example. By adapting it slightly you will be able to apply it to other uses.

First of all, let us analyse the informatin we need from a rail time-table. In practice we can assume, at least for the moment, that your prime need will be for information about trains from and to your local station, to and from places you regularly visit. So **'from'** and **'to'** are the first questions we have to decide.

Sometimes we might want to know ***'What is the first train we can catch to So-and-So?'*** More often, in practice, the question will be ***which train will I have to catch from A in order to arrive in B by such-and-such a time?*** And if we have formed a view of the time we wish to arrive there, and the time by which we have to be back at base. The program should be able to tell us the times of departure of the trains in both directions.

In short, if we enter the time we wish to arrive (e.g. 0937) we shall be told what train to catch in order to arrive during the hour in which 0937 occurs. Going to Chester (I had a Manchester-to-Chester timetable handy, so I used that for the specimen program) the train the program picks for us would be the one which arrives at 0918. But that train would also be selected if our approximate time was 0910. If it is vital that we be in Chester by not later than 0910, we would have to ask for a train between 0800 and 0859, and would be directed to the 0718 out of Manchester Piccadilly, arriving at Chester at 0843.

The structure of the program (it seemed to me) should depend upon answers being entered to the following questions:

"Which Route?"
"Time you wish to arrive?"
"Do you want information about any other trains?"
"If so, this Route or another?"

Obviously the data will appear on the screen after the second question has been answered. And if the answer to the third question is "Yes", then (after the fourth question has been answered) the second question should be repeated, and the new data revealed.

Before going any further we ought to ask whether there is any repetitive work here which could be turned into a GOSUB. This, of course, will depend on the way in which you structure the program. I decided that if the answer to the second question were given in 24 hour terms, then one could divide the data into 24 sections, i.e. between 0000 hrs and 0059 hrs; between 0100 hrs and 0159 hrs, and so on. This division would be exactly the same, on outward or inward journeys. Therefore it would be possible to have a GOSUB something like this:

```
9000 IF B=>0000 AND B=<0059
THEN X=0
9010  IF B=>0100 AND B=<0159
THEN X=1
9020  IF B=>0200 AND B=<0259
THEN X=2
9030  IF B=>0300 AND B=<0359
THEN X=3
That would continue down to:
9230  IF B=>2300 AND B=<0359
THEN X=23
```

Consider how easy it is to copy these 24 lines. Once you have copied the first and pressed RETURN, you can cursor to the beginning of that line and change four figures (each into a '1') so that it becomes LINE 9010; that LINE can be changed into 9020 simply by converting every '1' into a '2'; into LINE 9030 by converting every '2' into a '3' and so on. It is easy to do, and since we are using the same figure all the way through the line, it is not too easy to get mixed-up. What is more, if you LIST (say) 9000-9009 when you arrive at that line, you will see all the actual lines listed on the screen. And because they progress naturally, a maverick line sticks out like a sore thumb.

This will be your GOSUB and must therefore be followed by the command 'RETURN', so that having memorised the variables, your computer can return to the section in use and apply them by printing on to the screen the data appropriate to the chosen time in that section.

Another GOSUB deals with the question of whether or not you want any more information; if so, does it relate to the same Route? If not, which Route do you want? Now this one is slightly tricky. If you want another Route, then the program has to go back to the beginning of the program (the 'MENU') so that you are presented with a choice of Routes. But if you did that, you would find that the variables set the first time round remained in memory and some odd data would appear on the screen. My solution goes like this:

```
9520  PRINT "ON THIS ROUTE (Y/
?",R$
9530  GETKEY R$
9540  IF R$="N" THEN RUN
```

This RUNS the whole program, putting you back into MENU and clearing out all the old variables.

The insertion of a RUN command in oen of the earlier lines (see listing) removes the variables if the same Route is chosen again. When I began to play about with this program, I decided, in my straightforward way, to have in each section a series of LINES which reacted to the values assigned to the variables in the GOSUB.

For instance, a LINE might read:

```
IF X=11 THEN PRINT "M/C PIC 0950-
OXFD RD 1000-CHESTER 1118"
```

But that meant repeated typing of the station-names. So my next thought was to print a heading, with the station-names nicely spaced out, and then incorporate TABs in the 'time' LINES: for instance:

```
IF X=11 THEN PRINT"0950"
TAB(15)"1000" TAB(30)"1118"
```

With a little adustment of the heading TAB numbers, I was able to get a reasonably neat result. But in the end, being a lazy devil, I wanted to use as little memory as possible, so I plumped for the format:

```
IF X=11 THEN
PRINT"0950",,,"1000",,,"1118"
```

Yes; the three commas give all the spacing one wants.

A word about the LISTING. Since very few people will want to have details of *all* the trains from Manchester to Chester, I have limited the listing to one route in each direction, and have only given times up to 1000 hrs. This is enough to enable you *(i)* to see how the principle is applied

cont. on next page

continued from page 31

and *(ii)* to test the program (with times up to 1000) if you want to copy it out and RUN it.

But it is intended for adapting, and, given the outline, you can spend your time more profitably by typing in the stations and time which interest you, personally.

The program is, of course, for the C128. If you want to adapt it for the C64, that should not be difficult, though you will have to halve the TAB values (to allow for the 40 column screen) and the GETKEY command will not be available so you will be forced to use an INPUT instead.

LINE 9999? A favourite of mine. Once you have saved the program as 'Timetable', you can 'save and replace' at any time, simply by typing GOTO 9999 and pressing RETURN. What is more, the amount of memory still available in Basic shows up on the screen. Of course you have to insert a LINE just before 9990 (it is numbered 9560 in the attached listing) terminating in END, just to make sure that LINE 9999 cannot be reached and executed unless you make a direct command. (This 'GOTO' is invaluable if you get interrupted part way through a session when you were adding data to an existing program. I always use GOTO 9999 then: there is no difficulty in remembering it because I use LINE 9999 for that purpose in every program.)

As I said, this form of data retrieval is not only confined to train timetables but will work with any similar kind of information. It will (if you don't miss the train!) get you from Manchester to Chester and back – if that's where you want to go, of course.

P.M.

```
READY.

10 REM: TIMETABLE-PETER MCDONALD:
20 PRINT"(CLR)":PRINT TAB(36)"ROUTES"
30 PRINT TAB(36)"---------"
40 PRINT:PRINT:PRINT TAB(33)"DO YOU REQUIRE:":PRINT:PRINT
50 PRINT TAB(27)"(1) MANCHESTER TO CHESTER":PRINT
60 PRINT TAB(27)"(2) CHESTER TO MANCHESTER":PRINT
70 PRINT:PRINT
80 PRINT TAB(34)"SELECT 1 OR 2";A$
90 GETKEY A$:PRINT:PRINT
100 IF A$="1" THEN GOSUB 1000
110 IF A$="2" THEN GOSUB 2000
120 PRINT
1000 PRINT"(CLR)": GOSUB 8980:PRINT"(CLR)"
1010 PRINT"M/C PICC" ,,,"OXFD ROAD",,,"CHESTER"
1020 PRINT"-------",,,"---------",,,"--------"
1030 IF X= <7 THEN PRINT TAB(18)"NONE ARRIVE BETWEEN 0018 AND 0818"
1040 IF X=8 THEN PRINT"0655",,,"0700",,,"0818 (SATS ONLY)":PRINT
1050 IF X=8 THEN PRINT"0655",,,"0700",,,"0828 (NOT SATS)":PRINT
1060 IF X=9 THEN PRINT"0755",,,"0800",,,"0918 (SATS ONLY)":PRINT
1070 IF X=9 THEN PRINT"0744",,,"0800",,,"0918 (NOT SATS)":PRINT
1080 IF X=10 THEN PRINT"0903",,,"0905",,,"1021":PRINT
1090 IF X=0  THEN PRINT"2257",,,"2300",,,"0018"
1100 GOSUB 9500: PRINT"(CLR)":RUN1000
2000 GOSUB 8980:PRINT"(CLR)"
2010 PRINT"CHESTER",,,"OXFD ROAD",,,"M/C PICC"
2020 PRINT"-------",,,"---------",,,"--------":PRINT
2030 IF X=<6 THEN PRINTTAB(18)"NONE ARRIVE BETWEEN 2348 AND 0749"
2040 IF X=7 THEN PRINT"0628",,,"0747",,,"0749 (SAT ONLY)"
2050 IF X=8 THEN PRINT"0628",,,"0747",,,"0800 (NOT SATS)":PRINT
2060 IF X=8 THEN PRINT"0703",,,"0822",,,"0826 (NOT SATS)":PRINT
2070 IF X=8 THEN PRINT"0718",,,"0840",,,"0843 (NOT SATS)":PRINT
2080 IF X=8 THEN PRINT"0733",,,"0848",,,"0855 (NOT SATS)":PRINT
2090 IF X=9 THEN PRINT"0728",,,"0847",,,"0900 (ONLY SAT)":PRINT
2100 IF X=9 THEN PRINT"0758",,,"0814",,,"0920 (NOT SATS)":PRINT
2110 IF X=10 THEN PRINT"0828",,,"0945",,,"1000 (SAT ONLY)":PRINT
2120 IF X=10 THEN PRINT"0838",,,"1001",,,"1005 (NOT SATS)":PRINT
2130 GOSUB 9500:PRINT"(CLR)":RUN2000
8980 PRINT:PRINT"(CLR)"
8990 INPUT"                              APPROX TIME OF ARRIVAL (24 HR SYSTEM):";B
9000 IF B=>0000 AND B= <0059 THEN X=0
9010 IF B=>0100 AND B= <0159 THEN X=1
9020 IF B=>0200 AND B= <0259 THEN X=2
9030 IF B=>0300 AND B= <0359 THEN X=3
9040 IF B=>0400 AND B= <0459 THEN X=4
9050 IF B=>0500 AND B= <0559 THEN X=5
9060 IF B=>0600 AND B= <0659 THEN X=6

READY.

9070 IF B=>0700 AND B= <0759 THEN X=7
9080 IF B=>0800 AND B= <0859 THEN X=8
9090 IF B=>0900 AND B= <0959 THEN X=9
9100 IF B=>1000 AND B= <1059 THEN X=10
9110 RETURN
9500 PRINT:PRINT:PRINTTAB(15)"REQUIRE DATA ABOUT OTHER TRAINS (Y/N)?";T$
9510 GETKEY T$ :IFT$="N" THEN 9560
9520 IF T$="Y" THEN PRINT:PRINT:PRINT TAB(30)"ON THIS ROUTE (Y/N)?";R$
9530 GETKEY R$
9540 IF R$="N" THEN RUN
9550 PRINT"(CLR)":RETURN
9560 PRINT"(CLR)":END
9999 PRINTFRE(0):DSAVE"@TIMETABLE"
```

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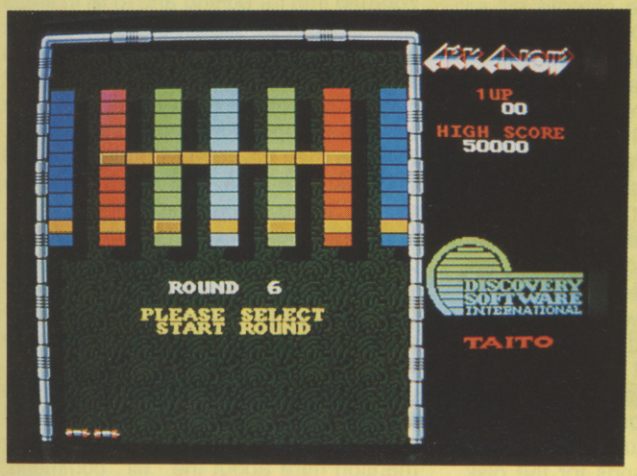

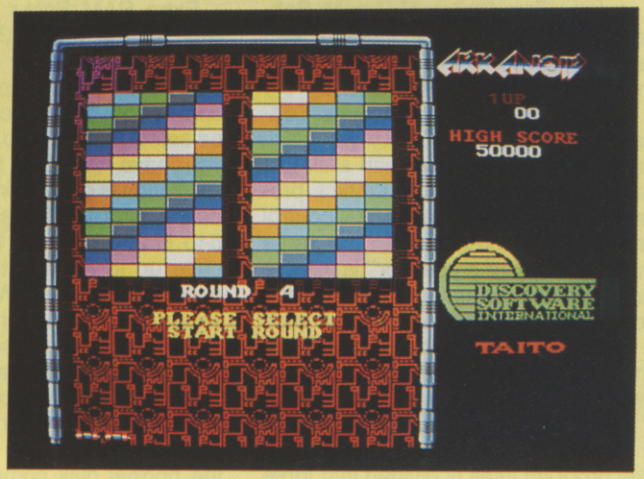

The arcade blockbuster *at last* on the Amiga. The most sensational conversion from the worldwide smash-hit coin-op game for the Amiga – Arkanoid.

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Through Amiga User International Magazine you can play the enhanced European version of Discovery Software's terrific new game about which our review says

"Apart from the Discovery logo and option to start on any of the first 20 levels, it may as well be straight out of the coin-op!"

As a special introductory offer from Amiga User International Magazine you can get Arkanoid for £19.95 – £5 off the recommended retail price – an amazing bargain! As our review says (again!) *"If you want a game that will become an Amiga classic, go and buy this, you won't be disappointed."*

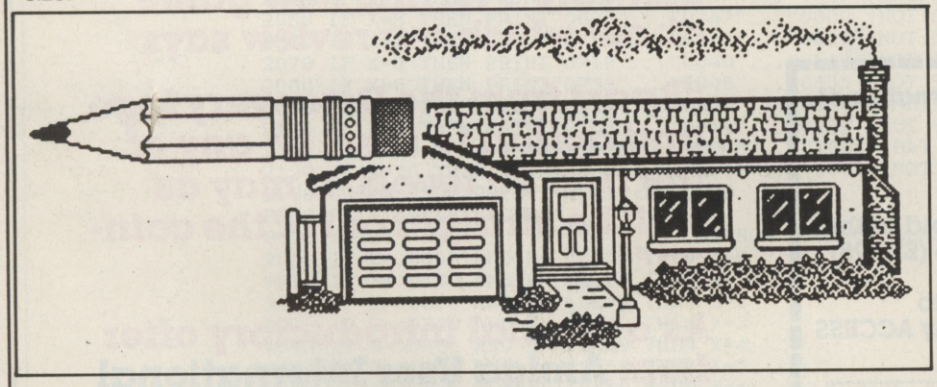
Page Illustrator 128

A 'graphics processor'? That is what Bob Collyer finds in a newly arrived 128 package from the U.S.

This program is new and extensive 80 column C128 graphic tool, written by Tom Brown of Patech Software Inc from the United States. It was created using the new Basic 8 development system and is distributed by the 128 specialists, Financial Sysems Software of Worcester.

Page Illustrator is more than a simple drawing package, it is a "graphics processor" designed to give you full control over your hi-res creations, in the same manner as a "word processor" is used to create a written document. The drawing options are extensive, with commands that help you draw geometric shapes, drop in text using a variety of different typefaces. Other powerful commands are available such as cut, paste, zoom and colour.

The program itself is divided into three sections: the drawing package itself, a utility for converting other popular graphic formats (such as 40 column Doodle pictures and Print Shop Clip-Art) to that used by Page Illustrator, and a Label Maker which allows you to use part of your drawing in a label of almost any size.



Using, the now very common WIMP operating system, the program boots up automatically presenting a main menu screen called the workbench. The choices open to you here are simply selected by moving the pointer over the icon and pressing fire or mouse button. To begin with the first option you must take is the Preferences icon. Under this heading a new screen gives a choice of joystick or mouse operation. Other defaults that your particular set up requires are also fixed. There are several choices of printer drivers and secondary addresses, all the most common are present, and many more besides.

Extra RAM Packs are catered for as well as the later 128D machines that have the 64k video chip, or machines that have had the upgraded 16k to 64k conversion. Picture colour and size can be selected here also. This is important if you have the 64k video chip as the resolution is greatly enhanced accommodating all 16 colours at a resolution of 640 E 200 dots per screen. Maybe not quite up to Amiga standards but a real good second best. When all the preferences are up to your own requirements they can be saved so that they can be booted up as a default every time.

Back in the workbench screen there are more choices for you to make. The disk access icon lets you perform any of the normal disk commands for the disk currently active. Files can be scratched by dumping them in the trash can as usual with these operating systems. Rename files or the formatting of fresh disks is again quite easy to do.

Once again back to the main menu for the icon that opens the main work horse program "The Drawing Board". At all times whilst using Page Illustrator Drawing Board, a HELP facility is always on hand should you need it. By pressing the help key on the 128 a pop-up menu for the current function or command is displayed. For example should you forget the commands for changing a screen colour the help menu will show you how to get the colours that you require.

There are ten main functions in the drawing package. They are accessed by holding down the control key and pressing any number key from 0 to 8. As this is such a versatile program I can just briefly touch on only a few of the commands available.

You would expect to find a freehand draw in all graphic utilities, with this one pen thickness can be altered or areas zoomed into for editing and to fill in areas with colours or patterns. Straight lines are straight forward! Boxes can be drawn anywhere, any size, anytime. Perfect circles or complex polygons can also easily be dropped into your masterpiece. Ellipses may be created and rotated 90 degrees at a time; text drawn onto the picture using about ten different typefaces in either reversed video or double height and even double width.

So with all those commands at your disposal it is no wonder just about anyone can create a pleasing graphic image every time.

Loading or saving pictures from the current disk is again a simple affair. All performed by menu selection. A point to mention here about the "fill" command. You are able to create your own fill patterns by memorizing the contents of a boxed area of your drawing. This stored information is called the clipboard. Using "fill" will fill the enclosed area you need with the memorized information, something I have never seen or used before in a drawing package.

From the main workbench screen a graphic image conversion program may be accessed. This will let you convert any Doodle 40 column file as well as Print Shop Clip-Art Images into an Illustrator format.

Finally, thee is a very nice label maker utility. Take a snippet of an illustration and drop it in one corner of your label, then fill with text from the extensive range of styles. There you have it. A personalised label, maybe just the thing your company needs.

Page Illustrator is the brother to Page Builder, a desk top publishing package. I can thoroughly recommend the Illustrator, it does all and everything you could want to produce excellent finished work. If Page Builder is of the same standard then these two would make a formidable team. They are both integrated and could produce very professional newsletters or business forms. A clip art disk of 75 ready made pictures is available as well to complete the set.

B.C.

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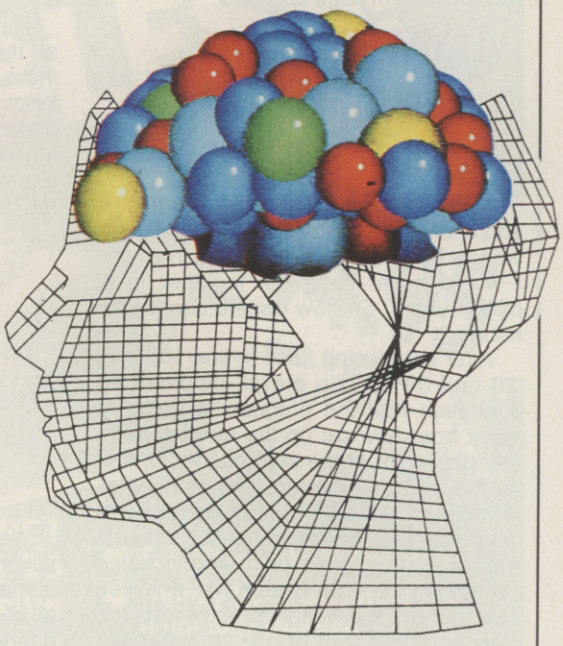
MONEY, MONEY, MONEY



In Part III of his series 'Artificial Intelligence and Commodore Computers', Peter Gerrard considers certain money problems and the dangerous life of a postman

In the particular field of Artificial Intelligence (AI again, introductions over) that we are looking at with Commodore computers, we are constantly trying to get the computer to think, and to think in a way that might be said to resemble the way a human being would think. But we have to realise our limitations.

Computers at present are incapable of coming up with a spark of genius, you might say, and this is true. They can only do what they are told, although an extremely well written database (for example) that allows cross correlation of information might enable a computer to pick out two seemingly unconnected pieces of data and relate them to another, thus making a discovery that the ever-impatient human has failed to find. Therein lies both the strength and weakness of the computer. It will go on doing what it is told, with infinite patience, until told to stop.

But if a database can possibly achieve something that a human could not, then perhaps there are other areas of computer programming that can be looked at and examined to see if the computer can pick up some information and come up with a 'discovery' that a human would not be able to make.

Before we go on to consider this month's extension to our Eliza program (and as you might guess from the title, we are going to be looking at the subject of money, for reasons which will be revealed later!), we will take a look at a small program that, given the computer's infinite capacity to do what it is told until interrupted, might possibly throw up something that we lesser mortals would be incapable of thinking, however long we might try.

and I thought I would devise my own version. Anyone who has ever read or written any science fiction will know that the aliens in there, or even the humans of the far future, have weird and wonderful names. How do the authors ever think them up? Well, I am sure they have never used a program like this, for this one generates names for aliens. Given the right information, of course, we cannot expect the computer to do everything for us.

```
Alien Names Generator

10 PRINT TAB(9)"A L I E N    N A M E S":FOR i=1 TO 39:PRINT "=";:NEXT:PRINT
20 x=RND(-ti):a$="aeiouy":b$="bcdfgjklmnprstvwxz"
30 c$(1)="sh":c$(2)="th":c$(3)="ch":name$="":FOR k=1 TO 6:FOR i=1 TO 7
40 i$=MID$(a$,k,1):a=ASC(i$):a=a+32:i$=CHR$(a):name$=i$
50 a=INT(RND(1)*5+1):b=1+INT(RND(1)*2)
60 name$=name$+MID$(b$,b,1):name$=name$+MID$(a$,a,1)
70 IF INT(RND(1)*100+1)>90 THEN name$=name$+c$(INT(RND(1)*3)+1):GOTO 90
80 name$=name$+MID$(b$,INT(RND(1)*18+1),1)
90 name$=name$+" ":FOR j=1 TO 2:a=INT(RND(1)*5+1):b=INT(RND(1)*19+1)
100 IF INT(RND(1)*100+1)<75 THEN 120
110 name$=name$+c$(INT(RND(1)*3)+1)+MID$(a$,a,1):GOTO 130
120 name$=name$+MID$(b$,b,1)+MID$(a$,a,1)
130 NEXT j
140 IF INT(RND(1)*100+1)>75 THEN name$=name$+c$(INT(RND(1)*3)+1):GOTO 180
150 IF INT(RND(1)*100+1)<75 THEN 170
160 name$=name$+c$(INT(RND(1)*3)+1)+MID$(a$,INT(RND(1)*5+1),1):GOTO 180
170 name$=name$+MID$(b$,INT(RND(1)*19+1),1)
180 a=LEN(name$):IF a<>19 THEN FOR z=a+1 TO 19:name$=name$+" ":NEXT z
190 FOR z=1 TO LEN(name$):IF MID$(name$,z,1)=" " THEN 270
200 NEXT z
210 REM print out name
220 IF zz=0 THEN zz=1:temp$=name$:GOTO 240
230 zz=0:PRINT temp$;name$
240 NEXT i,k:FOR i=1 TO 39:PRINT "=";:NEXT
250 GET a$:IF a$<>CHR$(13) THEN 250
260 END
270 a=ASC(MID$(name$,z+1,1)):a=a+32:i$=CHR$(a)
280 name$=LEFT$(name$,z)+i$+MID$(name$,z+2):GOTO 210
```

The idea for this program came from seeing an illustration of an American public domain program for (I think) an IBM PC. The illustration intrigued me,

You can run the program again and again until it comes up with a name that you like the sound of, for the computer will never tire of obeying the instruction

cont. on next page

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MONEY, MONEY, MONEY

'run'. It might in the end come up with the sort of alien name that sounds absolutely wonderful, and is something which you or I would never have put together in a million years. So how does it choose its names?

After introducing itself in line 10, lines 20 and 30 contain the all-important information that the program is going to work from. We set up the random number generator at the start of line 20, and at the end of it declare two string variables at a$ and b$. These contain vowels and consonants respectively, although we have stretched a point and included 'y' among the vowels as it has a vowel-like sound. Three letter combinations are defined at the start of line 30 before we set up the two loops that will print our 42 alien names, a number chosen only for its convenience, I assure you! We will have seven names for each vowel.

To start the name game off, line 40 picks up the first letter for each name from the appropriate place in the vowel table and makes it into a capital letter. Line 50 sets up two random numbers, the second ensuring that we select our names in alphabetical order, before line 60 adds a vowel and another consonant to the name. Line 70 then might choose to end the name with one of the c$ sounds, but otherwise line 80 selects a random consonant before we reach line 90 and add a space to distinguish from first and second names.

In line 90 we also set up a third loop and declare two new random numbers. Then, depending on the value of the random number chosen from line 100 we either go to line 110 and add a c$ sound and a vowel or we add an ordinary consonant and a vowel in line 120. Either way we arrive at line 130 and continue on around this third loop for another time before reaching line 140.

More randomness now, with line 140 letting us end the name with one of our c$ sounds. Line 150 checks to see whether we shall go to line 170 and end the name with an ordinary consonant, but otherwise line 160 ends it with a c$ sound and a vowel, for what can be at times a remarkably Japanese-like name. Whatever we do we end up at line 180 where we increase the length of the name so that it fits into the right place when we print it out on the screen.

Lines 190, 200, 270 and 280 sort things out so that the first letter of the surname is converted into a capital letter for clarity, and then we arrive at the routine starting at line 210 which, as the REMark tells us, is there for printing out the names on the screen.

These are printed out in two columns as they are generated, for after printing them out line 240 continues the two main loops before the end of that line just underlines the names on the screen to tidy up the display. Finally the program sits and waits for you to press the RETURN key, whereupon it ends.

"This is mainly due to next door's dog, a Hellhound in disguise, which leaves me alone but seems to delight in eating postmen"

We have had to teach the computer several things here, so that the names it comes up with are not sheer nonsense all of the time. It has been taught that an opening vowel of a name is followed by a consonant or some other combination of consonants rather than another vowel. Yes, I know some names have two vowels at the start, but these are aliens we are talking about! For the sake of these aliens, we have also told the computer that the surname begins with either a consonant and a vowel or sh, th, ch and a vowel. Given this information it means that one of the names chosen at random would not be Eldo Rado, but could well be Alan Coren. Not that there is anything alien about Alan Coren, I hasten to add, he being one of this country's better writers of humour.

Now you could quite easily tell all this and the rest of the information contained within the program to a fellow human being and ask them to come up with some names. Agreed, but you try doing it without inevitably producing a list of names that all sound more or less the same. Working from the same instructions, the computer manages to produce 42 names that sound agreeably different every time we run the program.

Moreover, the human thinker will soon get tired and give up, but the computer will not. Given the information that we have fed into it, the computer will come up with 42 alien names: will 'think' of 42 alien names, if you like. And getting a computer to think is what this little series of articles is all about. And with that, onto this month's additions to our Eliza program.

Last month we said that one of the ways of extending our program was to break down an input from the user into various groups of words, and 'mother' was the word chosen in last month's example. While casting my mind around for a topic for this month I realised that I was keeping an eye out for the postman. This is mainly due to next door's dog, a Hellhound in disguise, which leaves me alone but seems to delight in eating postmen. Thus I have to go and rescue the postman whenever he turns up with some goodies for us. One other reason for studying the road and waiting for the post was that I was in minor financial trouble owing to a technical problem called lack of money, and hopefully some benevolent magazine was going to be sending me a cheque! They did, problem temporary solved, but the subject of money was so much on my mind that morning that I decided to add a 'money' subroutine to our Eliza program.

There have also been several changes to the main body of the program as well, so we shall concentrate on those first.

Line 10 is the first one to be altered, and this just keeps track of what was typed in last time around in the variable pr$. We shall be looking at this one again a bit later when we consider some more of the alterations. Lines 15 and 19 come next, with 15 beig the one that checks for the user talking about money, or in the same way that we dealt with 'mother' last month we see if the subject under discussion is still money by using the variable mflag. Line 19 is merely the original line 15 shunted down a little, and has been renumbered as 19 in order to make way for the other topics that we will be introducing in the remainder of this series.

```
i want to be rich

Why do you think that
you want to be rich?

so i can have loadsamoney

Money is the root of all evil, you know!

Still, let's talk about it.

i want to have enough money to retire

Hmm ...

you want to have enough money to retire.

Why?

because I'm broke and upset about it

you're broke and upset about it.

Try and do something about it.
Go for it!

why should i
Calm down, I'm interested, that's all.

Tell me more.

?
```

Lines 45 to 50 are also additions, the first three of them concentrating on specific inputs from the player whatever the topic under discussion. Thus if the player types in "why . . ." then a response is given and in line 46 control is sent off to line 392. Line 47 (which, like line 45, requires you to use ? instead of PRINT when typing it in, so that it all fits into 80

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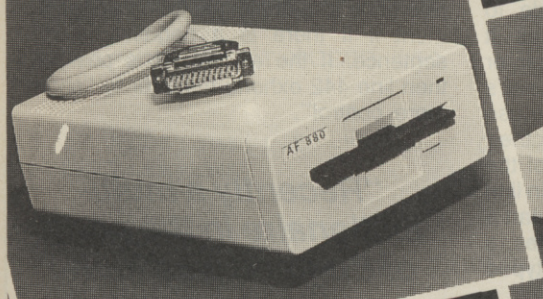
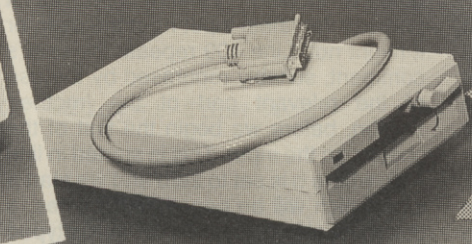
WHY PAY MORE FOR THE BEST? WHEN THE BEST COSTS LESS!





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MONEY, MONEY, MONEY

character spaces) looks for a sentence beginning with "so . . .", and prints a suitable response. Incidentally, if you feel like altering any of these responses then feel free, you do not have to stick rigidly with everything that I type in!

Line 48 harks back to our pr$ variable, which is storing the previous input from the user. If the user happens to type in exactly the same thing again, then this line prints up a reasonable response under the circumstances and goes back for another input without saying anything further on the matter.

Lines 308, 310 and 359 are all slotted into the 'mother' section from last month, and are used so that the routine starting at line 400 is not made inordinately longer than it has to be by repeating stuff already done in that other section. Lines 308 and 310 enable both 'mother' and 'money' sections to take a look at lines 30 to 50, so line 50 checks for the variable m and sends us back to line 310 if it is present. Line 359 checks for the variable mn, and if that is set then we are talking about money not mothers and it is back to line 408 and the heart of the money routine, which is what we shall consider next.

"This is line 408, where our electronic psychiatrist might randomly decide to utter a studied "Hmmm . . ." as it peruses the latest input from the user, or it might not"

This actually begins at line 400, which is REMmed in order to let us know what is happening. Lines 402 and 403 are there in case we have visited this routine once before, changed the subject and started talking about something else, and then reverted back to talking about money again. The program points out the user's obsession before going to the 'utility' line, line 392 which just says something along the lines of "Tell me more".

Lines 404 and 406 are there for the first time that the user starts talking about money, and just gives a suitable phrase before setting up the variable mflag so that the rest of the program knows where we are in the 'money' section. Line 407 sets the variable mn and takes us off to line 308, where we use the 'mother' section to split the user's input up into individual words for checking later. This is where line 359 comes in, as it sends us back to the next line in this particular section.

This is line 408, where our electronic psychiatrist might randomly decide to utter a studied "Hmmm . . ." as it peruses the latest input from the user, or it might not. Line 409 repeats the user's comment, suitably rephrased by the use of the relevant part of the 'mother' section, before we begin the first of the checks on the input. This is started in line 410, where b is set to zero and we start a loop which will be negotiated a times, a being equal to the number of words typed in by the user.

This first check is a relatively simple one, and just looks for negatives in the input, words like "not" or ones that end in "n't". If it finds and then the variable b is increased, and after encountering the NEXT statement in line 414 we eventually arrive at line 416. Here, if b is greater than zero, we just print up a gently nudging "Why is that?" comment before going back for another input. After this we meet our next check, which follows similar lines as before, but this time we are looking for words like "need" or "want", indicating a desire on the part of the user. As ever, you could enhance these sections if you wished. Anyway, if the user is found to be desirous of something, a simple "Why?" is sufficient before going off for another input with line 424.

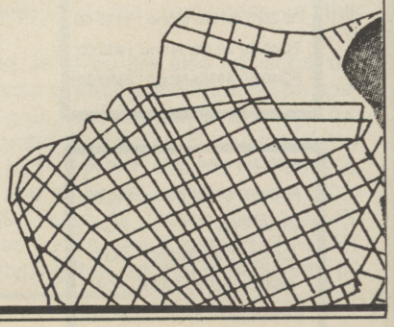
Three more checks to go. The first of these occupies lines 426 to 434, and looks for a user who is attempting to tell the computer that they are broke, have no money or job, or are in some other way one of the less fortunate members of society. If this is found to be the case then a fighting comment in line 434 endeavours to get the user off their chair and out into the world, fighting for their right. Or something like that, anyway. The second of these checks is there to see whether the user is gambling or not, and we increment the variable b if a reference to gambling is found or decrement it if there is a negative in the sentence. If the end result is positive, then line 442 exhorts the user to "show more control".

"Recently a multi-millionaire in the north of England was found guilty of trying to illegally acquire another million and a half. Now that is unhealthy obsession!"

The final check occupies lines 44 to 449, and is there to see if the user is talking about money from within the monetary section, indicating a somewhat unhealthy obsession with money. No bad thing if you have got a lot of it, perhaps not so good if you have not. Recently a multi-millionaire in the north of England was found guilty of trying to illegally acquire another million and a half. Now that is unhealthy obsession!

If none of these checks come up with any revealing insight, then the user is informed that we appear to have strayed from the point as we reset the variable mflag to zero, set the variable tm to one to show that we've already talked about money, before eventually going off to line 10 for another input.

As with the 'mother' section last month there are many possible enhancements that could be made to this program, and you are more than welcome to customise your own version of it for your own particular use. You might try and choose some different topics for discussion, for instance, and if you do have a try then you too will be getting involved in AI. Now I am going to print this out, stick it in an envelope, and try and think of some artificially intelligent way of training next door's dog not to eat postmen! See you next month for part four.



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MONEY, MONEY, MONEY

Money, money, money

```
10 pr$=cm$:PRINT:GOSUB 160


15 IF MID$(cm$,i,5)="money" OR mflag=1 THEN 400
19 NEXT:z$=cm$


45 IF LEFT$(cm$,3)="why" THEN PRINT "Calm down, I'm interested, that's all.":PRI
NT
46 IF LEFT$(cm$,3)="why" THEN 392
47 IF LEFT$(cm$,3)="so " THEN PRINT "So we all have our dreams ... carry on.":GO
TO 10
48 IF cm$=pr$ THEN PRINT"You're repeating yourself ...":GOTO 10
50 IF m=1 THEN 310


308 m=1:GOTO 30
310 m=0:j=0:a=0:FOR i=1 TO LEN(cm$)


359 IF mn=1 THEN 408


400 REM patient talking about money
402 IF tm=1 THEN PRINT:PRINT"Again?!  This obsession with money is"
403 IF tm=1 THEN PRINT "worrying.":PRINT:GOTO 392
404 IF mflag=0 THEN PRINT:PRINT"Money is the root of all evil, you know!"
406 IF mflag=0 THEN PRINT:PRINT"Still, let's talk about it.":mflag=1:GOTO 10
407 mn=1:GOTO 308
408 mn=0:PRINT:IF INT(RND(1)*100+1)>50 THEN PRINT "Hmm ...":PRINT
409 FOR i=1 TO a-1:PRINT s$(i);" ";:NEXT:PRINT s$(a)"."
410 b=0:FOR i=1 TO a
412 IF s$(i)="not" OR RIGHT$(s$(i),3)="n't" THEN b=b+1
414 NEXT
416 IF b>0 THEN PRINT:PRINT"Why is that?":GOTO 10
418 b=0:FOR i=1 TO a
420 IF s$(i)="need" OR s$(i)="want" THEN b=b+1
422 NEXT
424 IF b>0 THEN PRINT:PRINT"Why?":GOTO 10
426 b=0:t=0:FOR i=1 TO a
428 IF s$(i)="you're" OR s$(i)="broke" THEN b=b+1
430 IF s$(i)="no" THEN t=1
432 IF t=1 AND s$(i)="money" OR s$(i)="job" THEN b=b+1
434 NEXT:IF b>0 THEN PRINT:PRINT"Try and do something about it.":PRINT"Go for it
!":GOTO 10
436 b=0:t=0:FOR i=1 TO a
438 IF s$(i)="gamble" OR s$(i)="bet" THEN b=b+1
440 IF s$(i)="not" OR RIGHT$(s$(i),3)="n't" THEN b=b-1
442 NEXT:IF b>1 THEN PRINT:PRINT"Show more control.":GOTO 392
444 b=0:FOR i=1 TO a
445 IF s$(i)="money" THEN b=b+1
446 NEXT:IF b>0 THEN PRINT:PRINT"You do keep harping on about money.":GOTO 10
448 mflag=0:PRINT:PRINT"We seem to have strayed from the point."
449 tm=1:PRINT:PRINT"Repeat that last statement to me.":GOTO 10
```

DRIVE DOCTOR

Andy Eskelson had a friend whose drive was sick, so he took him to Trilogic's Doctor

The disk drive is considered to be a 'must' with most computer users, and they are probably the most common add-on to a computer system next to the cassette drive. Disks offer several advantages, fast loading, random access to name but two.

It must be remembered that the drive is a mechanical device and like many things it can suffer from a variety of faults. So what happens when your drive starts giving error messages, or will not load the directory? Panic would be the first perhaps, but there are a few products on the market that will allow you to reset your drive to a working state, or if not indicate the fault to some degree.

Trilogic have such a product, called Drive Doctor. This allows the user to reset the alignment of the drive. Before describing Drive Doctor it is worth remembering how a disk drive works.

There is no fundamental difference in operation between a tape deck and a disk drive. They both record information onto a magnetic surface. The real difference is in the way that the information can be recovered from the magnetic media. With a tape, the information is recorded serially bit by bit and to get to the last item of data you would have to run through the entire length of the tape. The disk overcomes this problem by having a mechanism that can move the replay head so that it is close to the data that is required.

In order to do this the tape had to be redesigned. It became a flat disk of ferric coated mylar. This is spun at approx 300 rpm by the Drive motor. A very small and lightweight head is moved across the surface of the disk by a STEPPER motor. Data is recorded onto the disk in a series of concentric rings called tracks, NOT in a continuous spiral groove like a music record. To be able to read the data on the disk the head must be positioned very precisely over the centre of the tracks and as there are 48 tracks per inch on a standard disk there is not much margin for error. (If you think that this is bad, think of the high density disks that use 96 tracks per inch, or even the new 3.5 inch disks, which use 135 tracks per inch.)

There is one other problem to consider and that is compatibility. You could use a drive that was set up completely at random, and it would be quite happy with life. You could format, save and load as normal . . . PROVIDED that you only used disks that were formatted with that drive. What happens if you want to load a commercial program? The chances are that it would not load. So, as well as providing a very precise position control for the head, it must be the same as everyone else's to ensure reliable loading.

Trilogic's Drive Doctor contains all the information that you need to perform several tests and also the instructions that you need to realign your drive.

WARNING

Disk drives are mains powered and you have to work on the drive with the power ON. With the case open dangerous voltages are exposed.

Any attempt to open the case will void any warranty that you have.

Realignment is not a process that should be undertaken lightly. If you are in any doubt at all – do not attempt it, let an expert do the job.

The Drive Doctor comes with a tape containing the program, and a special alignment disk, and a small instruction book.

The tape has the Disk Doctor program on it, and it is here that I find the first fault with the system. The program is a turbo-load type, and if you have a misaligned tape deck then you will have problems loading the program. I would have rather seen a slow normal speed tape load for this program. The wait would have been worth the reliability.

Once loaded, the user is presented with a menu screen depicting the main operations of the system. They are Motor Speed, Head movement, back stop setting, head alignment, and stepper motor hysteresis.

The Alignment disk contains a very specially recorded set of tracks and MUST NEVER BE USED TO SAVE DATA.

By far the most important part of the system is the instruction book. This is a very small booklet all of eight pages long. But it is very good in that it presents the user with an extremely easy series of instructions even if they are a little hard on the eyes. The book covers only the 1541 series drives, and the diagrams are clear and uncluttered.

The proof of any program is when it is tried in anger, and it happened that I received a call from a friend who was having loading problems. The trouble was that he had a 1571 drive. To make matters worse the drive was the internal drive of the C128D. So after a dozen screws and a lot of effort the drive was exposed. The next problem was that the program would not work on the 1571 at all. This was overcome by forcing the drive into the 1541 mode by sending the U0>M0 command to the drive. From that point on the alignment was very simple but it did take a very long time to get it spot on.

As the diagrams did not show the 1571 I had to find the equivalent adjustment points on the 1571, but as it turned out the stepper motor adjustment is very easy to find and if anything easier to get at than the 1541. The problem with alignment is that you should keep checking from one end of the disk to the other and for this purpose the alignment disk has data on two areas – track 2 and track 32. I would have liked to see a test on track 18 (the directory track) but this was not available. As with many things, it was not possible to get everything dead centre. This is caused by slightly out of true drive pulleys etc but the book does warn the user that it may not be possible to get everything spot on.

During alignment the screen displays a chart of the head position. One section shows the track alignment in a very broad sense; this is easy to get correct. The other display shows the half track alignment. This is the test that it is very hard to get absolutely accurate. The best that you can do is to set up the drive so that the indicators stay in the centre for as long as possible.

If alignment is not the problem then you can test the motor speed and the action of the stepper motor, i.e. is it nice and smooth? All these tests are very useful especially if you have a sticking head.

The moment at which the drive electronics knows that it is at a predetermined point is when the head hits the back stop: this indicates that the head is over track zero. Drive Doctor provides a couple of simple tests allowing you to set up the stops.

In conclusion, Drive Doctor is a very agreeable product and also a very well-behaved piece of software, as it also worked on the 1571 when the instructions did not state that it would. As with any Drive alignment, it is not a task to be undertaken by the beginner at all. If you are going to have a go then you would do well to find someone with electronic experience to help you, and expect to spend the best part of an afternoon on the task. The final thing is that the system works! My friend can now load his old disks again as well as commercial programs.

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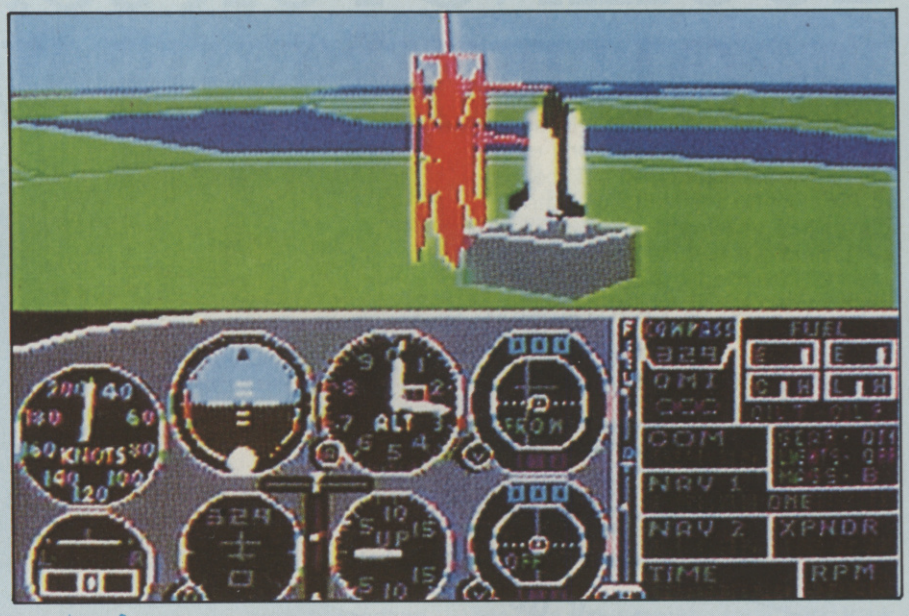


SUB-LOGIC FLIG

There are many so called "flight simulators" around these days for the C64, some cheap and nasty, some expensive. Many of these are simple to fly and easy to lane but do not have the ***feel*** of real flight. I am sure that nearly every C64 owner has one. But they are not true simulators. Imagine yourself at the controls on the runway ready to go. Full throttle, brakes off, accelerating down the tarmac reaching flying speed, then pulling back on the stick and you are up-up-and-away. By pulling the stick either way you send the plane in the required direction.

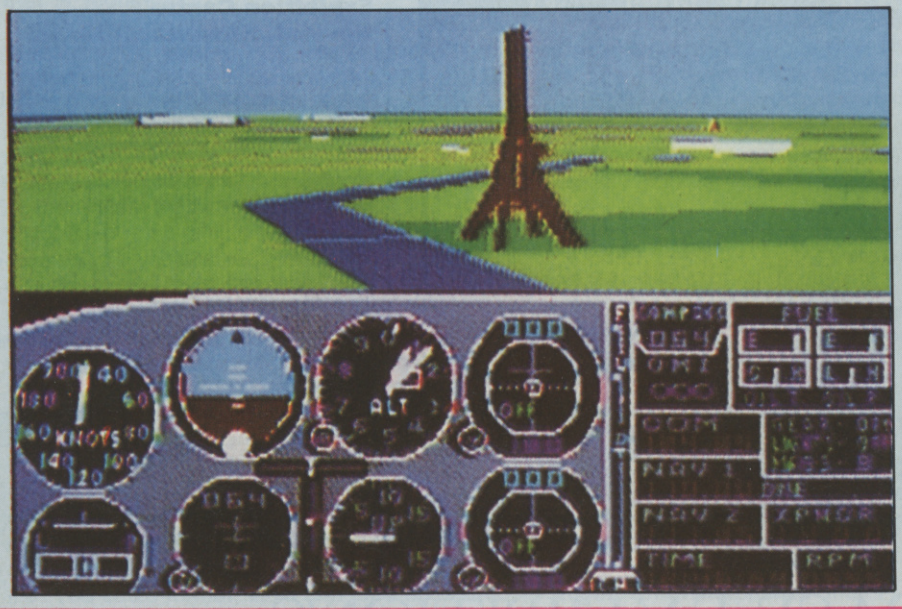
Well so many of these programs are just like that. If only a flight in a real plane were that easy! We all know that is not the case. Real pilots spend hours and hours studying flight theory and many hours "hands on" flight training just to hold a private pilot's licence. Flight Simulator II is a real simulator, as true, in every aspect as it can be to give the armchair pilot the experiences of flying that could otherwise only be obtained by flying a real live aircraft.

FS.II was written and developed as long ago as 1983 by a team of enthusiastic programmers headed by Bruce Artwick. Although this simulator has been around for five years, which in computer terms is a lifetime, no other program has still come anywhere near to match the complexity and the accuracy of, what I call "the best ***STIMULATOR*** around.

One great disadvantage of FS.II up until now has been its rather high price. It is true to say that you get what you pay for in this world and if you want the best you have to pay for it. That fortunately now will not be the case, because soon FS.II will be available in the autumn at a greatly reduced price. Good news indeed!

I have been the proud owner of this simulator for a couple of years now and I have still the same enthusiasm and quest for adventure and I had when I first took to the skies. If you are fed up with your simulator and want a chance to really fly, I mean ***really, really*** then this is the best substitute there is.

The screen display is crammed with all kinds of information to indicate current settings and readings. Just as in the real thing there are so many controls to set correctly to obtain the optimum flying attitude. A total of 47 different important aircraft characteristics have to be taken into account at all times, (it will keep you busy just concentrating on these alone), as if this were not enough there is the 3D solid shaded graphics out of the windshield to give you your visual reference. You may also change your viewing angle, so as to look completely around the sky and over the ground. A radar view is again possible you can zoom in or out to show the surrounding areas.



Flight Physics Manual

Besides these screen displays there are two books and four maps of the flying areas. The first book is a 100 page Pilots Operating Handbook and Airplane Flight Manual and another 100 page book Flight Physics and Aircraft Control, both of which need to be studied greatly before you attempt your first "hop". Come with me, bring your leather helmet, goggles and white silk scarf. Let us find out what there is to be learnt with FS.II.

In the Flight Physics Manual you get the necessary ***grounding*** if that is the right word in the theory of flight. Learning the effects of lift, drag, weight and thrust. Pitch, roll and yaw. All the basic flight manoeuvers. There are eight complete flight lessons, these allow you to folow stp by step from the early lessons of take off and climbing to the really advanced stage of Instrument Landing System (ILS) approaches.

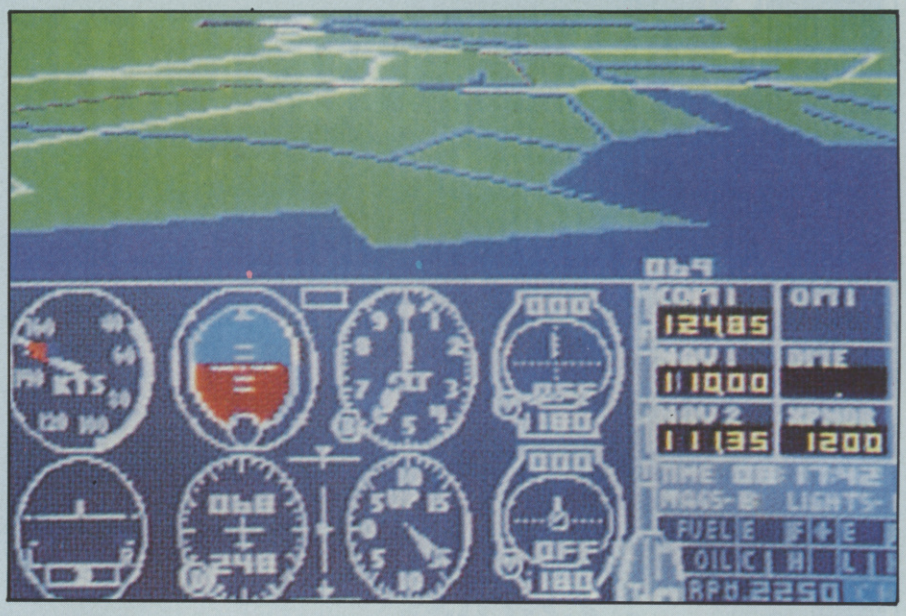
After you have mastered the instructions in these lessons there is a chapter on aerobatics for the really eager pilot! Should your aircraft control be up to the limits, you'll find aerobatic flight to be quite an exhilarating experience. The goal of this manual is to help you more fully enjoy the entertainment and instruc-

tional value of FS.II without letting you develop habits that could interfere with any future real flight training.

Pilots Operating Handbook

The Pilots Operating Handbook explains all the joystick and keyboard control sequences that enable you to operate and fly the aeroplane. The FS.II simulates the flight characteristics of a Piper PA-28-181 Archer II, a single engine, non-retractable undercarriage aircraft equipped with a good set of avionics. This type of aircraft was chosen because it offers good performance yet is easy and simple to fly (a bit like my XR3!).

Just for fun, and to lighten the workload, there is in addition to the real time simulator, a World War I Ace shoot-em-up. The year is 1917, the place is on the western front, you can battle it out with older bi-planes. Supplied with bombs and



HT SIMULATOR II

machine guns it provides an entertaining match of your pilot skill and strategy against computer controlled enemy aircraft. You have to shoot down at least five enemy aircraft to attain the Ace rating, extra points can be earned by bombing factories or fuel depots.

The WW II game can be started by entering the editor. The editor (unlike our CCI editor!) can be accessed at any time! Here you are able to change the "operating modes" pretending to be God for a while changing the seasons or the time of day. The clouds, the surface winds even high level wind changes. You can select different parts of the "world" to fly in. This disk offers 4 main flying areas over the U.S.A. There are ten preset operating modes which can be selected, each offering a different set of environmental factors. Another 14 "user" modes which you have control over and may be saved to disk allowing you to define your own parameters for flying conditions that would make life more interesting.

I read a review recently where FS.II was mentioned, the reviewer was writing about a jet powered aircraft, he remarked that FS.II had you pottering about in a Piper. I don't think he could have been making the most of this simulator, probably flying in one of the easier modes. Some of the more advanced flying characteristics will have you so busy that you will be flying by the seat of your pants!

I mentioned earlier the "world" you fly in. Well, on the program disk there are 4 main regions to choose from, each have some of their own interesting topographical features. Just a few of the sights are . . .1). Chicago Area, the famous Sears Towers, the John Hancock Building and the main highway to Champagn. 2). Seattle Area, The tallest man made structure in the world, the Space Needle, Mercer Island and the Evergreen Floating Bridges. 3). Los Angeles Area, The Harbour, the west coast freeway and the Santa Ana Mountains. 4). Finally everyones favourite Boston and New York area, the main sights are the Empire State Building, The Twin Trade Towers, Manhattan Bridge and the Statue of Liberty.

Scenery Disks

All this information could not possibly be held in 64K memory at one time so to overcome memory limitations the program disk must be kept in the drive at all times. The reason for this is because when you fly from one area to another the program automatically retrieves more information off the disk. The details of the features in the new area are therefore accessed as you fly over or ***into*** them! That's real time stuff!

The programmers working on FS.II have gathered more and more details of

continued on page 45

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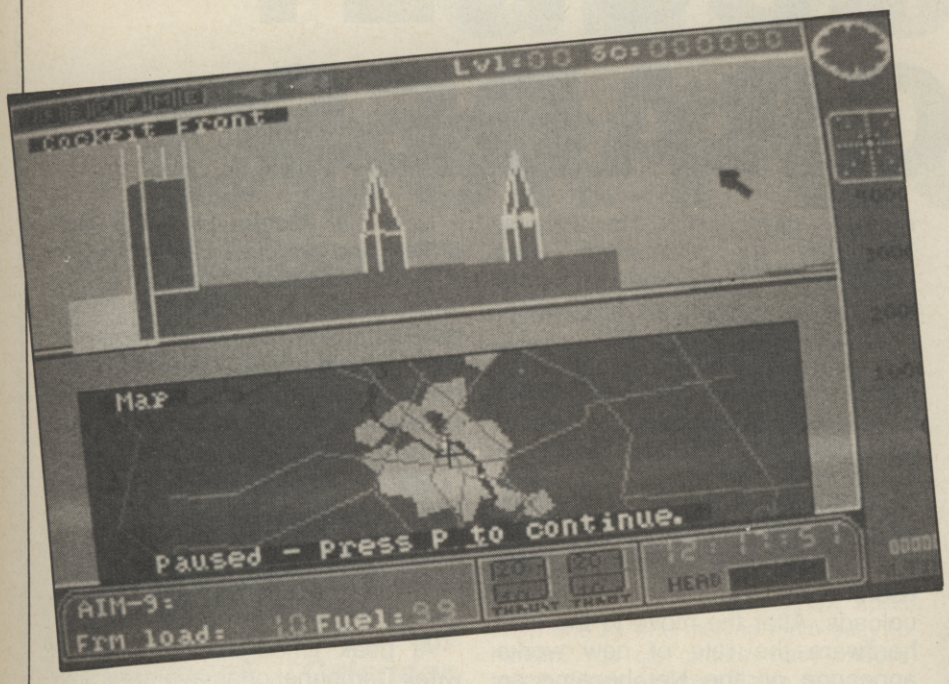
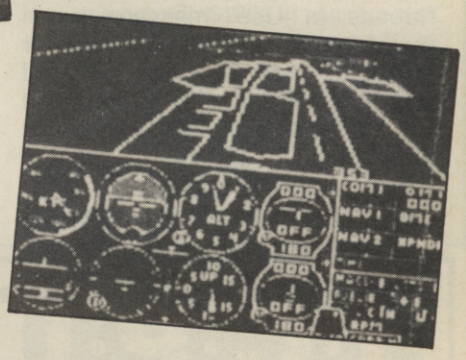
continued from page 43

SUB-LOGIC FLIGHT SIMULATOR II





other areas in the States and a total of twelve separate Scenery Disks cover the entire U.S.A. These disks can be purchased separately and on each there are around 4 detailed regions or cities covered. I have two favourite disks in mind, the first in Scenery Disk No.11 containing the Niagara Falls, Lake Huron and Detroit areas.

How about taking a flight up the river below the rim of the canyon right up to falls above you? Make sure you pull up in time to avoid crashing into it! Scenery Disk No.7 contains Miami, Cape Canaveral, even with a Space Shuttle on the pad ready to go! Washington DC sights include the White House, the Capital Building, the Pentagon and bags more! Honestly, there is so much to see that it would not be possible to fly to all the places, even if you took a months holiday.

More recently a Scenery Disk for Western Europe has become available, this will be of greater interst to us here at C.C.I. in London. At "home" you can take a flight down the Thames, under Tower Bridge, buzz the Houses of Parliament, a right Royal fly past by Buckingham Palace. Other interesting parts of the Southern British Isles to see such a Stonehenge or the White Houses at Uffington and Westbury.

Northern France around Paris allows you a great sightseeing tour of the Arc de Triomphe and the Eiffel Tower. Areas of S.W. Germany are also included on this disk. The Olympiaturm Tower and Olympic Grounds in Munich how about dropping into the Theresienwiese Beer Garden for a quick pint (sorry litre). One surprise location on the disk is the City of Moscow.

The programmers added this as sort of a competition for you to try and find it, as there are not any co-ordinates given to tell you where it is. Except a couple of clues, such as fly on a compass heading of 130 degrees from Helsinki Airport at 5,000 feet at 135 knots for around three and half hours and you should be in the general area!

If you can get a copy of this disk, good luck trying to find Moscow. If you succeed remember what happened to the young West German who recently landed his craft in Red Square. He went to prison for 4 years. Although he was released a few weeks ago after having served only a few months. You can experience his fantastic journey without the punishment.

With each disk there is an invitation to explore! Because so much work has gone into this project and there is so much to see that the only way to see the "world" is to explore from the comfort of your own home.

I am a real flight simulator fan, I have tried many, there is no other simulator that comes anywhere near the accuracy and geographical details of FS.II. So if you want to get hooked, there is no better time than the present, as the new prices allow many more new potential Sub-Logic FS.II Biggles adventurers.

Price: £39.95

B.C.

COMPUNET UPGRADES

In July the Compunet online database closed down for a week. The continued influx of new users had meant that the existing hardware was beginning to strain under the load and an upgrade had become necessary. Compunet originally started with time rented on a DEC-20 mainframe before moving onto its current host, a custom-built multi-processor mini-computer.

In the last month or so users had begun getting the dreaded 'All Threads In Use' message when attempting to send electronic mail or upload for example. This indicated that no processor was available and the machine was running at full capacity.

With the Net opened to Amiga users, there has been a steady flow of new users onto the system. Thankfully the Compunet Host machine can be upgraded with extra processors, memory or disk space, relatively easily.

It is not only the hardware that has been overworked. As more users have joined the system the rate of uploading has increased rapidly. In Compunet's early days its editor, Jane Firbank, used to track all interesting new uploads in her NEWS area. This gave Cnetters a very useful summary of each day's new uploads. After the move to the new hardware the rate of new works appearing on the Net became so great that Jason Gold was called in to aid and abet by starting a separate Demo Review service.

Now that sixteen bit users have arrived and are busy uploading public domain software, demos, articles and reviews the scale of the problem has increased yet again. However, there are a number of user run areas on the database which carry upload reviews, one of the most popular being KKYTV.

KKYTV is a well established area which carries demo reviews, interviews with the more famous Compunet users, competitions, articles about life on the Net and now an upload tracking service.

At peak times during a normal week Compunet often averages sixty or more new uploads an hour. The rate is higher at weekends and much higher on bank holiday weekends.

J.L.

I·C·P·U·G

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GEOS Desk Pack 1

Another GEOS based utility gets the once over this month. This one is for the 64 version running in 40 columns The Desk Pack 1 is a mix of some very useful utilities. The package contains two new programs, a Graphics Grabber and an Icon Editor, also two new desk accessories, an Appointment Calendar and a game of Blackjack. version 1.3 of Desktop and new and enhanced input and printer drivers.

As is usual with all Geos applications, the first operation requested is to make the backup disk. Once this operation is out of the way you are now ready to sample the delights of Desk Pack 1.

Graphics Grabber

The Graphics Grabber is a program designed to convert artwork available with other Commodore 64 programs for use in GEOS programs. The Graphics Grabber is compatible with and able to load graphics from PrintMaster, Print Shop, and Newsroom. Following GEOS traditions the Graphics Grabber operating system is completely menu driven. The utility will most often be used with the Geos applications geoPaint and geoWrite.

These combinations allow you to customise professionally designed art for specific applications, and to paste it into a document created in the word processor. A good way to organize a work disk for this activity is to have the Graphics Grabber file installed onto your geoPaint/geoWrite/photo manager workdisks. To grab a graphic image from another disk select file sub-menu, here a list containing the type of program you wish to grab it from is presented. These are PrintMaster, Print Shop and Newsroom. Any one of these programs selected asks for the disk containing the graphic images it is then a simple job of selecting which image you wish to convert to GEOS.

The image selected is then displayed on screen, to save the artwork, select "in a scrap or album" from the menu. Each graphic is stored as one picture in an album and can be manipulated using the photo manager allowing you to "cut and paste" into the finished article. As a matter of interest Newsroom usually appeared in groups but GEOS splits them one by one making them easy to handle. You can create many images together in one of your Photo Albums for future use.

Icon Editor

The second utility is the Icon Editor this allows both C64 and C128 GEOS version's icons to be customised and saved. The Icon Editor lets GEOS users convert non-GEOS files to the special GEOS format, to customise these newly converted files, and to save the new icons on to the disk.

To edit an icon is very similar to the way that the pixel editor works in geoPaint, so getting familiar with it only takes a few seconds. Changes can be made and saved quickly and easily.

Appointment Calendar

The first of the accessories is the Appointment Calendar. To open double click on the icon as usual and displayed is a calendar month. You can change the calendar several months or even years at a time by selecting the change icon or, if you keep the preference manager up to date the current month will be automatically displayed when the accessory is used.

The calendar allows you to make notes in the datebook, here a daily notebook is displayed wiht an area for you to enter any notes for that particular day. When you return to the monthly display you can see the dates selected by an asterisk on that date. All your special dates can be displayed using the list option. When selected you see a list of dates that are in the datebook. A simple click over a particular date displays the entry for that day. Like most GEOS desktop accessories, you may leave the calendar by selecting the quit option. Any dates that contain information are saved in a datebook file automatically and are present again the next time you use the calendar.

Blackjack

The Blackjack Desk Accessory is a one-person simulation of the popular card game. You play against the computer. You start out with $1000 in your account, and you can play as long as you like, provided that you still have some money. The program uses a complete 52 card deck, so counting cards is possible.

There are some sound effects in this game such as shuffling the pack and dealing. A neat little graphic representation of the cards are displayed and laid out showing both hands at which you can bet as much as you like providing your balance will cover the bet. A simple game, easy to play and easy to use. Just the sort of accessopry to help you waste a few minutes when you've nothing better to do for a while.

DeskTop and Drivers

Desk Pack 1 features an improved version of DeskTop (version 1.3) and newly added GEOS supported printer and input drivers. The new deskTop allows some keyboard short cuts and shows the current printer driver icon below the disk notepad. Several new printer drivers are now supported by GEOS, a list of these are displayed on a "read me" file to help you choose the one to suit your particular set-up. These newer drivers work faster than the old drivers and contain additional features that will enhance your printing performance. You should, therefore, replace any old printer driver that you are currently using with these newer ones.

I reckon if you were one of the first GEOS owners then you cannot afford to miss this. You are even given an updated version of geoWrite and geoPaint both containing extra keyboard short cuts with this package ... Can't be bad.

Price: **£21.95**

Contact: Financial Systems Software Ltd, 18 High Street, Pershore, Worc. WR10 1BG. Tel: (0386) 553153.

B.C.

THE DRIVE BOX

If you use two drives, or want to write protect, you may need the Drive Box. Andy Eskelson explains why

Commodore disk drives are one of the very few that are intelligent in their own right, i.e. they have their own built-in microprocessor. There is also a fairly complex system to transfer data to and from the host computer, be it a C64 or C128. The Commodore serial bus to which the drives are connected also provides communication to many other devices such as printers and plotters. As the connections to the serial bus are all parallel, it follows that there must be some way of uniquely identifying each device on the bus. Well, there is, and it is the DEVICE NUMBER. By convention, printers have a device number of 4 and disks have a device number of 8.

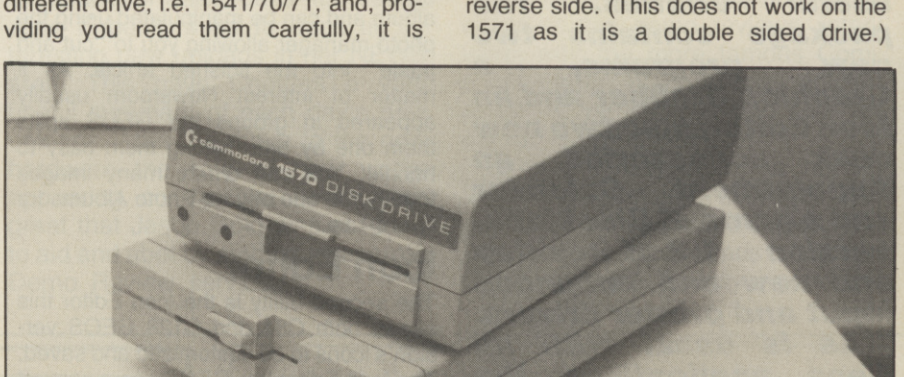
This is all very well until you come across a conflict, i.e. you have two disk drives, both set to device 8. The newer 1571/1570 drives have switches that can be used to set the device number to 8, 9, 10 or 11. In the older drives, 1541, you have to cut or make a couple of connections inside to change the device number, which can mean a bit of soldering.

MicroTeq Systems have produced a product called the Drive Box. This is an add-on unit that you can fit to your disk drive that enables the easy changing of the device number and of the function of the write protect sensor.

Fitting this unit is NOT EASY AND THE BEGINNER SHOULD NOT CONSIDER FITTING IT. You must be able to solder to a good standard and be prepared to delve into the innards of your drive and thus VOID A WARRANTY. YOU HAVE BEEN WARNED!! . . .

Up to six wires have to be connected at various points to the drive ciruit board and for this you will need a soldering iron, and a good read of the instructions. The instructions are clear enough, but they could be better. The photographs are awful, unclear and out of focus. They may as well not be there in the first place. I do know the problems of taking photographs of circuit boards, including depth of field problems, but for a commercial product the photographic quality should be 100%, especially as it is used to identify various locations in the drive. It is possible to overcome the problems by careful setting up of the camera and lighting system and by the use of the correct lens.

There are several sections to the installation manual, each dealing with a different drive, i.e. 1541/70/71, and, providing you read them carefully, it is possible to do the job correctly. Once you have installed the device the next step is to test it out.



> ***"The Drive Box is so simple there is hardly anything that can go wrong with it"***

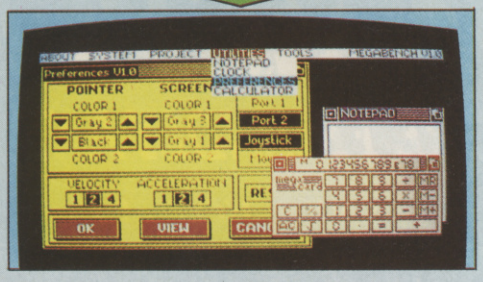
The Drive Box is a small plastic box that houses three switches and a six way din socket. The connecting lead is terminated in a matching din plug (the same as the disk drive uses) and the ends of the lead are prepared for soldering. The connections for the write protect sensor are also provided with a second connecting method, small spring clips (often known by the trade name E-Zee Hooks). There is no identification on the leads, you simply tell them apart by the different lengths of the three pairs. The switches are big and chunky and have a cheap look and feel to them. There has been no attempt to make life easy; you still have to set the switches to a chart to get the correct device number. I can't help wondering why the chart was not reproduced on the box.

The Write protect override is rather dubious as it is supposed to avoid the need to notch disks if you want to use the reverse side. (This does not work on the 1571 as it is a double sided drive.) However, the system uses the operation of the write protect switch to tell when a disk has been changed. There is a big danger of disk corruption when using this feature, quite frankly it is more trouble than it is worth. If you must use the reverse side of disks, buy a disk notcher, much less hassle.

The Drive Box is so simple there is hardly anything that can go wrong with it. However the overall design is rather crude. The detachable lead is a nice touch, but not really necessary. It is possible to get thumbwheel switches that would display the device number as they are operated, that would be a lot better. Finally, if I were going to all the trouble of soldering new wires into the drive, I would have gone the whole hog and drilled the front panel to take a couple of switches to switch the device number. The Drive Box is a nice idea, but it does not really inspire me to go to the bother of leaving it connected, it gets in the way too much.

Contact: Financial Systems Software Ltd, 18 High Street, Pershore, Worcester WR10 1BG. Tel: 0386 553153.
Price: £19.95

KEEP IT SIMPLE!



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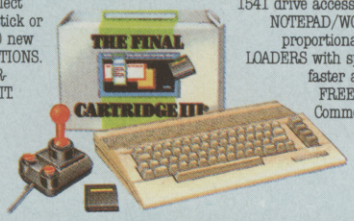

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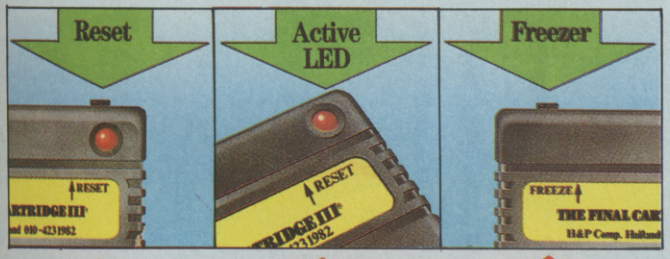
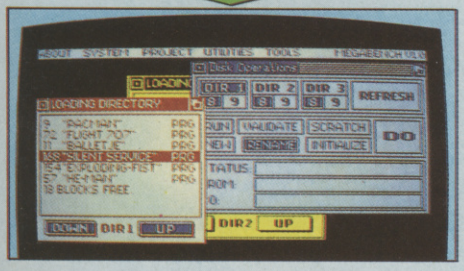


WINDOWS



THE FINAL CARTRIDGE III

The high-resolution bit mapped windows are selected from a menu bar. An unlimited number of windows can be open on the screen at the time. The windows can be freely moved on the screen.

The following windows are already implemented in ROM:

PREFERENCE WINDOW
Selects: mouse port, joystick port, mouse speed, screen colours, pointer clours, keyboard click, keyboard repeat.

CALCULATOR
Complete simulation of a LCD-calculator. Input either with mouse, joystick or keyboard. The numeric key-pad of the C128 can be used in C64-mode.

NOTE PAD
Easy to use wordprocessor with proportional characters enables you to store and print small notes, letters, etc.

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Enables you to open directories from different disks and drives, sort and print directories.

DISK WINDOWS
Load, Run, Rename, Validate, Scratch, Initialize, Fast format disks.

TAPE WINDOW
Activates fast and normal modes.

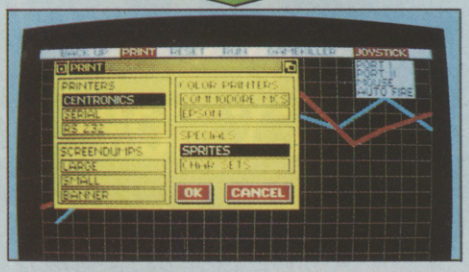
PRINTER WINDOWS
Select different printers, such as Commodore serial, Centronics, RS 232, Colour printers.

REQUESTER WINDOWS

DISC BASED USER WINDOWS

CLOCK
Real Time Clock, with Alarm.

FREEZER MENU



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Freezer options include:

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● Full A4 printing ● Variable printsize ● Colour printing ● Sprite printing ● Reverse printing ● Colour changes.

GAMEKILLER
● Kills sprite to sprite ● and/or sprite to background collision ● Can be started at any point in your game.

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● Transforms a normal joystick to an advanced auto fire engine.

JOYSTICK PORT CHANGER
● Never blow up your computer again by changing joystick ports while the C64 is running.

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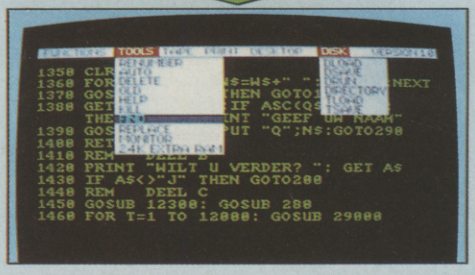
Comfortable ML monitor.
Does not reside in memory.
Functions include:
● Scrolling up and down ● 64K ROM/RAM access ● Sprite editor ● Character editor ● Drive monitor ● Fast loading and saving ● Printer driver.

PULL DOWN MENU



THE FINAL CARTRIDGE III

Almost all commands and functions that are not activated by windows can be selected from a menu bar, which appears on top of the screen after pressing the fire button, either in Basic or from the freezer. The following Basic Toolkit and keyboard extra's are included:

● Renumber ● Auto ● Delete ● Old ● Help ● Kill ● Find ● Replace ● 24K extra RAM for Basic ● Append ● DAppend ● DSave ● DOS ● Moniter ● Drive monitor ● Sprite editing ● Centronics interface ● Fast format ● Low Res screen-dumps ● Plist ● Scrolling up and down ● Stops and continues listings ● Programmed functionkeys ● Packer/Cruncher ● Hex to decimal conversion ● Pokes, syscalls and variables may all have Hexadecimal values ● Trace, Dump, Order, Mem.

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- **SIMPLE TO USE:** Just press the button and make a complete backup – tape to disk, tape to tape, disc to tape, disk to disk. THE PROCESS IS AUTOMATIC – JUST GIVE THE BACKUP A NAME.
- **TURBO RELOAD.** All backups will reload at turbo speed, COMPLETELY INDEPENDENTLY OF THE CARTRIDGE.
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- **PRINTER DUMP.** Freeze any game and print out the screen. Eg. loading picture, high score screen etc. Works with most printers. MPS 801, 803, Star, Epson etc. Double size, 16 shades, reverse print option. Very versatile – no user knowledge required.
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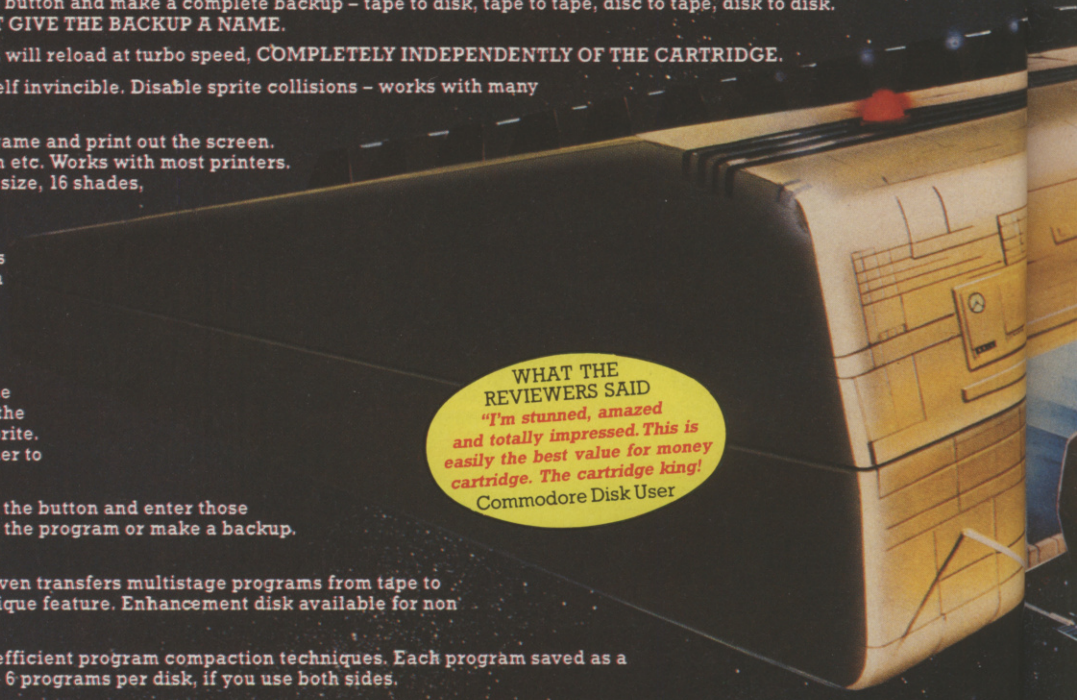

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G.M.

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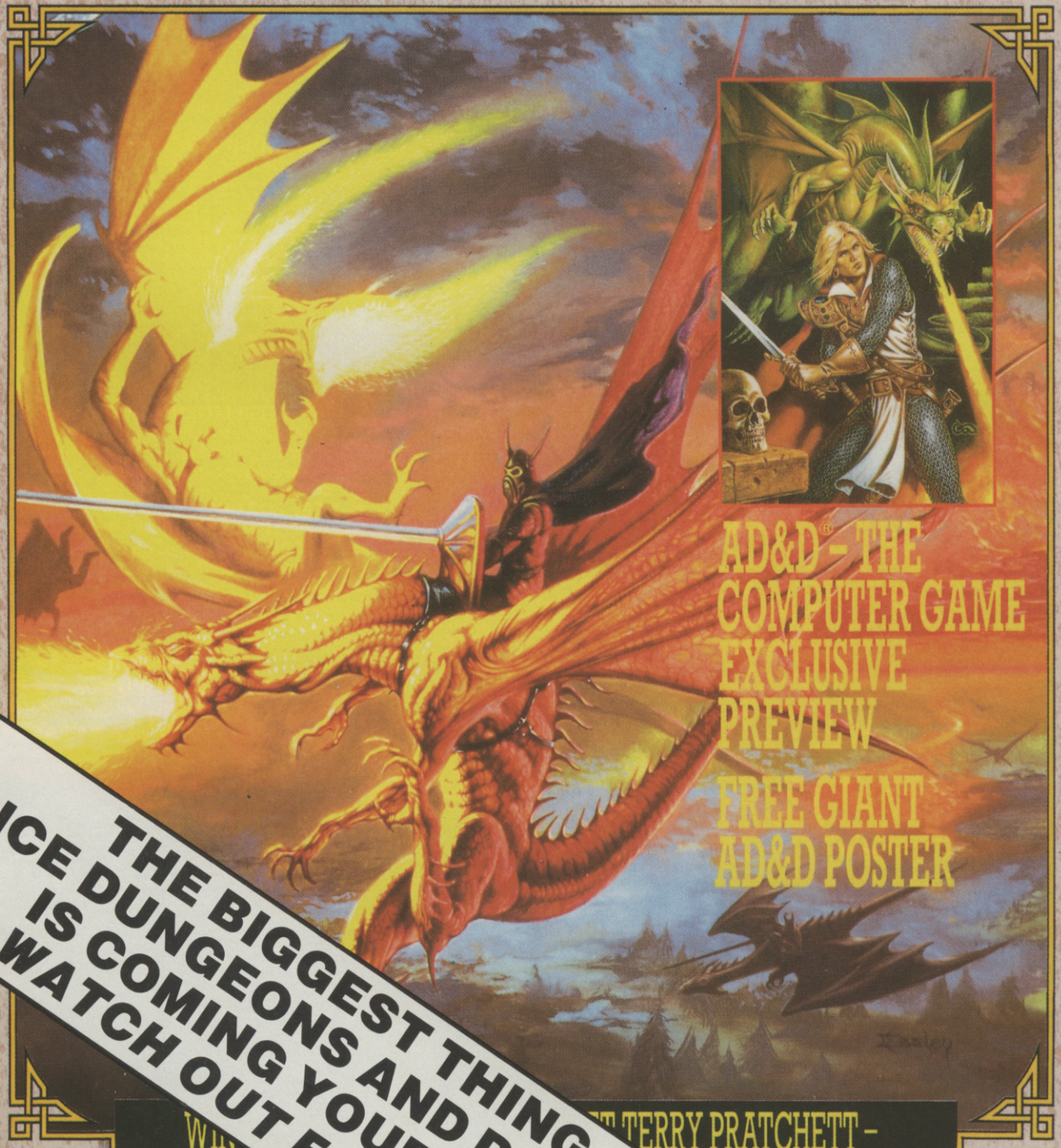
Volume 1 N

PREMIER ISSU



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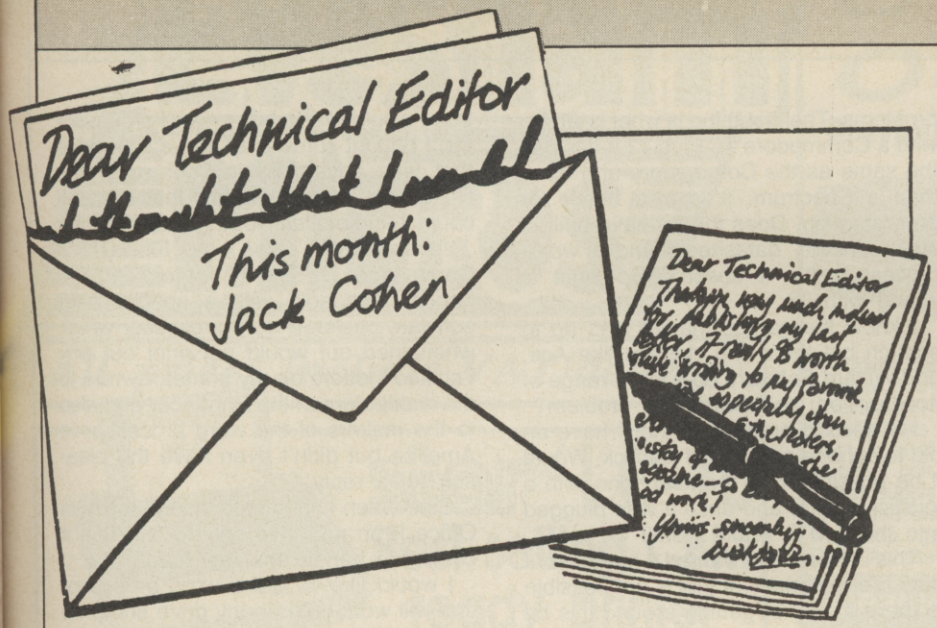

Dear Technical Editor,
I am the proud owner of a Commodore 128, 1541C disk drive and Panasonic KX-P1081 printer connected via a Sprint 128 interface. I also have a Philips Green screen monitor connected via the video socket at the rear of the 128. Since I have only recently upgraded to the 128 from a Commodore 64 I was wondering if you could answer a few simple questions.

Whenever I try to enter the 80 column mode of the 128 the computer seems to freeze, I am left with the border and a blank screen with no cursor. I have read the relevant sections of the manual and tried every method it states, pressing the 40/80 key before turning the power on, using the ESC key then the X key and even using the GRAPHIC 5,1 command. Nothing seems to work. I have tried my local computer store and they say that it should be possible to get the 128 running on a television in 128. Could you tell me if it is possible to get 80 columns on the 128 using either the TV screen or the monitor stated above, if so what do I require to accomplish this.

Also as I mentioned I own a Panasonic printer and Sprint 128 interface, although the Panasonic printer suffices for my word processing needs I would like to use it for other applications. I was considering purchasing the Geos system and utilising the facilities of Geos Paint and Geo Write Workbench along with Geos Font Pack 1 but I am still unsure that the printer will work with these programs, the printer suffices with ordinary characters but when I try to print graphics I end up with a series of useless characters. I have encountered this problem with commercial software such as Mini Office II when I tried to print graphs created in the graphics section of the program. Could you please tell me if it is the interface or the printer which causes this, and if possible give me the name of an interface which would suffice for my needs as I understand that the Geos system offers a choice of printer drivers, to facilitate the use of non-Commodore printers which utilise interfaces.

I hope that you can answer these two simple questions for me and keep up the good work with your great magazine.
Yours faithfully
Richard Gelder

Dear Richard Gelder,
Your monitor should be connected to the RGB(I) socket, not the video socket which is provided for 40 column output. This would not work with non RGB(I) monitors. Check with your printer manual that graphic characters are available and, if so, then suspect the interface.

Evesham Micros technical dept will advise if they have a suitable printer driver for your setup.

Dear Technical Editor,
Forgive me if my query has an obvious answer but I've rung several of your advertisers in vain for help and am completely stumped!

My problem is that I have a Commmodore 128 and I wish to use 80 column mode on my Hitachi TV/monitor. I bought the TV (model CPT 1646) before I began computing and made sure that it had an RGB socket so that I could use it in the future with a computer (I *thought* RGB was industry-standard, using identical sockets like MIDI).

The Hitachi does not have a 9 pin socket as on the 128, it has instead a 7 pin DIN socket. Having been unable to get a lead from a retailer, I considered making up my own lead though again, I have the problem of connecting 9 pins to 7 and I don't wish to damage either computer or TV through ignorance.

Is there a solution to my problem? If I have no option but to buy a new monitor, I will also have to consider that in a year or two's time I will be hopefully buying an Amiga and will therefore also need a monitor for that. For now, I've thought that if I *have* to buy a monitor, I'll get the Commodore 1901 but I'm under the impression that it would not be compatible with the Amiga. If not, do you have any suggestions for a monitor which I can use with both computers?

I'm sorry that this letter's so long but if you can provide an answer for my first query you can forget the second bit!
Thanks in advance
Paul Andrews

Dear Paul Andrews,
Have a look at your C128 RGB(I) diagram and you will notice that the 'I' stands for intensity. Your monitor does not have an intensity input, which means it is not RGB(I) and cannot be used for 80 cols. It can be used as a TV with 40 column input via the RF connector.

A 1901 needs a special connector fitted if it is to be used with the Amiga. This is because although the 1901 does have the circuitry needed in order to be used with the Amiga, the necessary output connector was left off by CBM for economy reasons. I believe that Trilogic do a suitable conversion, but check with them first.

Dear Technical Editor,
I own a C128 and have found that although the Trojan light pen works in the 64 mode it does not always work in 128 mode. This is particular with Pocket's Filer & Writer both v2 for the C128.

My question is what other light pen is there that works in 128 mode. I have heard of one going by the name of 'Flexidraw' but have never seen it advertised. Comments and help . . . PLEASE.

Just to let other CCI readers know, I bought the 1581 drive and Basic 8 with tutor and Super 81 utilities and can say I am very very pleased with them. The help I received from Financial Systems Software on each of the articles was/is first class, the very same as the CCI mag.
Yours sincerely
David M. Thornton

Dear David M. Thornton,
This seems to me to be a fault in the software that utilises the light pen input. If the program does not take enough samples of the X, Y registers then the use of the pen may have none, or an irregular effect on the screen. The number of samples required depends upon the characteristics of the pen, but should not be less than 3 or more on average.

Ask the distributors of Pockets filer & writer for the name of the light pen that they recommend for use with their product.

Dear Technical Editor,
I would be most grateful if you or any readers could help. I have acquired a

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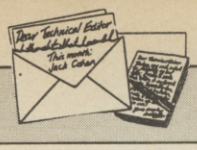


continued from page 53

Commodore 128 P500. I'm trying to find books or programs for this model, which takes disks. It has a cassette port also, but no instructions as to how to direct it to the cassette for use. Also the language it accepts is Forth. Can you possibly help?
J. A. Anderson

Dear J. A. Anderson,
The P500 was not released by Commodore. The entire production was originally sold to the Hungarians who found them of no use to them and returned the lot. They have since been sold by CBM as a job lot and found their way onto the market, along with dealers and software houses own development models. The system was never fully debugged (which is why CBM did not release it to the public) and no software was ever produced for this computer.

One of the bugs is that although there is a cassette port, there are no routines in the ROMs to permit access to, or use of, the cassette port. The onboard language is Basic so I cannot understand how your machine has Forth fitted, unless this has been done as a one off project by a previous owner. This could have been done by utilising RAM expansion since the machine was designed with a potential RAM expansion to 896k. Base memory of 128k incrementing by 64k to maximum of 256k on board. Also planned were Z80 and 8088 options. It has a 40 column colour display (16 colours) with output to TV or RGB monitor. It has IEEE bus interface, meaning you can use IEEE disk drives and printers with it. The original idea was of a Super 64!

Dear Technical Editor,
I have typed in your listing of Skeet Shooting in your August issue. I have saved the program to disk. I have loaded it from disk but when I run the program it looks all as correct up to Line 2290 when it stops and advises "ILLEGAL QUANTITY" whereupon the program crashes and I have to start again.

I have checked all the program and have saved it EXACTLY as printed in the magazine.

Would you please advise me what is wrong with the program as printed in the magazine.
Yours faithfully
D. M. Lloyd

Dear D. M. Lloyd,
I have tried 'Listing 1' of Skeet Shooting and it works fine. The message 'ILLEGAL QUANTITY' results from the program trying to POKE X,−1 in line 2830 so recheck your listing, particularly with regard to ',' between data entries which might lead to '−1' being miscounted and passed through to line 2830.

Dear Technical Editor,
I would like to pick your brains about two problems. The first thing is what is wrong with a Commodore 16 Plus 4? It has 64k the same as the Commodore and more than a Spectrum. It is also better for programming. Does the 64 have built in spreadsheets, datasheets and a word-processor. No it doesn't. So what is wrong with it?

I know the games market isn't up to scratch but there are classics like Ace, and Wizard Software do a large range of accessories, so what is the problem?

My second problem is that I have an old telephone and an old joystick. Would it be possible to fit the telephone with a joystick socket and once it was plugged into the port it would work?

This is because I wanted a modem but they are too pricey. If this is not possible is there a way of getting around this by writing a program?

Yours from a puzzled but happy owner of a +4
Mark Spencer

Dear Mark Spencer,
The Plus/4 is a fair micro with a good Basic language and it has always been underrated, mainly because of the built-in software which could have been better if Commodore had not rushed the computer onto the market. They should have built in some quality software, and then released the machine.

This is why some software producers brought out alternative software for the Plus/4 even though the same type of software was already supplied in the machine. For example CALC RESULT on cartridge (spreadsheet) and Superbase (Database). However, Commodore stoped producing/supplying the Plus/4 and C16 and dumped their remaining stock.

Once the size of the user market is limited in this way then it is not worth software houses producing software for them. This does not mean that the computer is no good, it is just a fact of life in the computer world.

If you depend upon bought in software then do not buy obsolete computers just because they are cheap. This would not apply to a computer such as the C64, since it has been around so long that there are plenty of all kinds of software available.

Now to your second problem. You must have a modem or equivalent on a board in order to connect to a telephone line, and it must also be of a BT approved type. Prestel/Micronet were selling modems for the Plus/4, so contact them in case they have some left at a low price that may suit your pocket.

Dear Technical Editor,
I wonder if you would be able to help me out with some advice on a long standing problem.

I have a rather aged Commodore 64 that I would like to buy a word processor for. I bought some time ago a disk drive that was advertised in your mag, the Enhancer 2000. I was told that this unit could handle "fast load" software.

At about the same time I bought a Commodore DPS 1101 printer. The Enhancer was sold with a special offer software package word processor which when tried out would not print out any "shifted" letters on my printer. I wrote to the distributors of the Enhancer and also to the makers of the word processor in America but didn't even have the pleasure of a reply.

Since then I have tried to load the Mini Office II on my drive only to find that it could not handle the fast load.

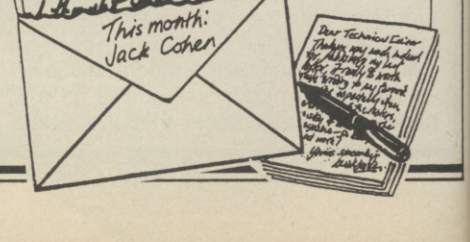
I would like to find a word processor that will work both on my drive and print out everything on my printer. I am loathe to buy without some expert advice on what to buy. I have seen the Geos in your mag from Evesham Micros looks good, but will it work for me?
Look forward to your reply.
F. Hill

Dear F. Hill,
I have contacted Evesham Micros and they have not heard from anybody who has used Geos with the Enhancer drive and they have not tried the combination. The result is that they cannot guarantee that Geos will work with your drive. It is used successfully with the Excelerator Plus (another fast drive), which is supplied by Evesham, but the ROM routines are different from the Enhancer. The trouble with non CBM disk drives is that they are fine as long as you use non copy protected software.

If the disk ROMs were exact copies of Commodore's then Commodore would object to their copyright being abused. If they are not sufficiently identical to fool copy protected programs then difficulties will arise with such programs unless the programs are written specifically to work with such drives. A small difference in ROM routines may be enough to interfere with loading and running of programs.

If you can find a suitable word-processor that is unprotected by choice of the software house (and there are such producers) then that will be the best solution to your problem.

If any reader who has used a suitable package with Enhancer can help, then please write in to CCI.



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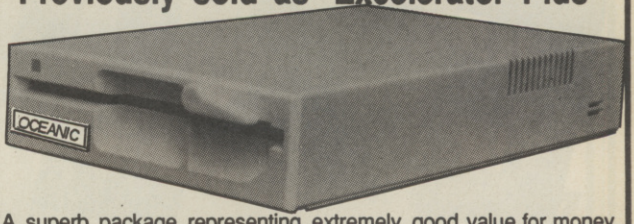

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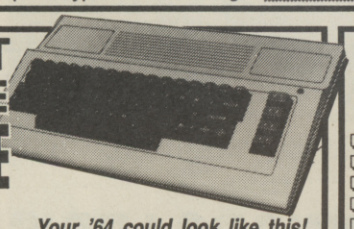

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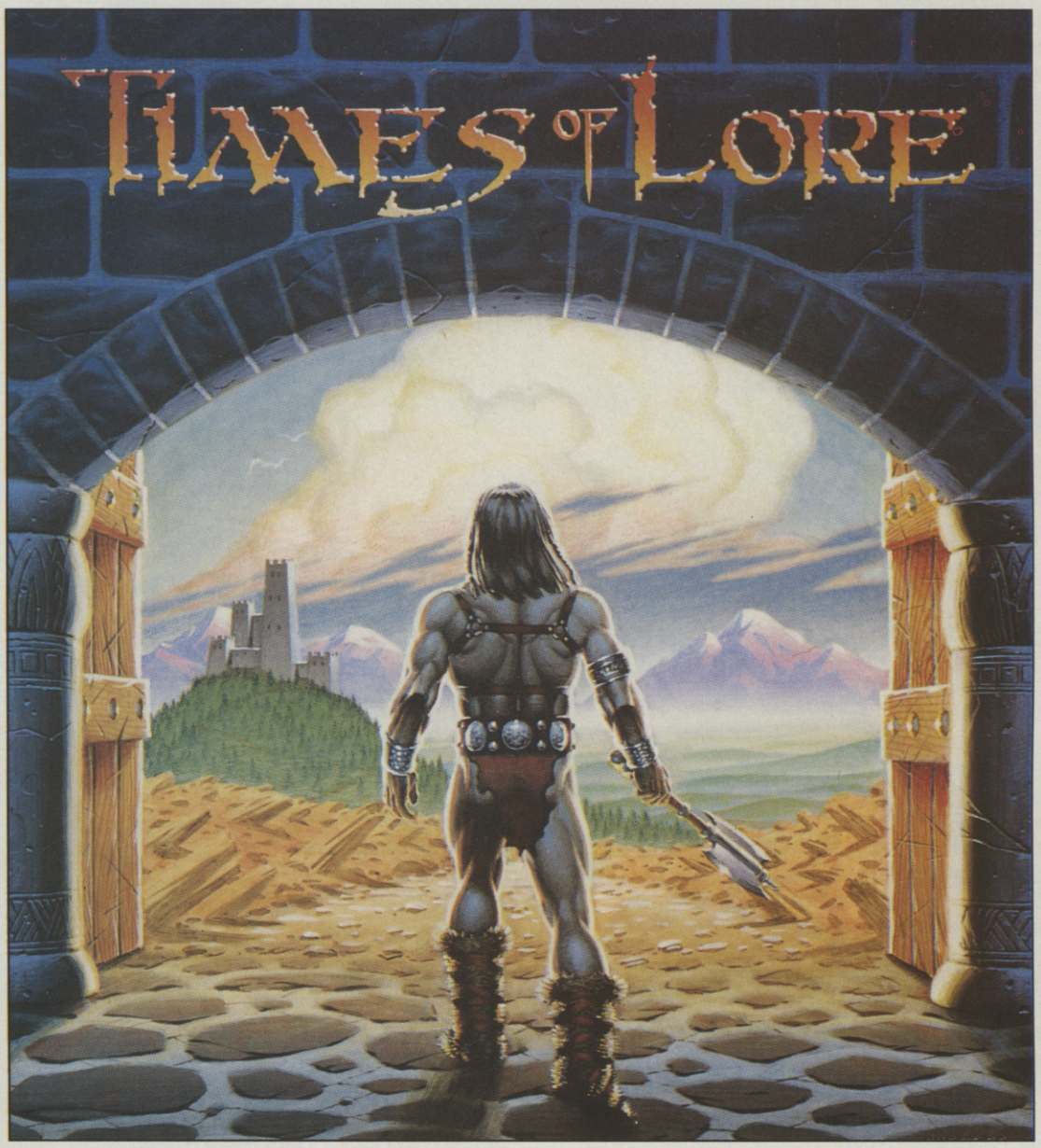

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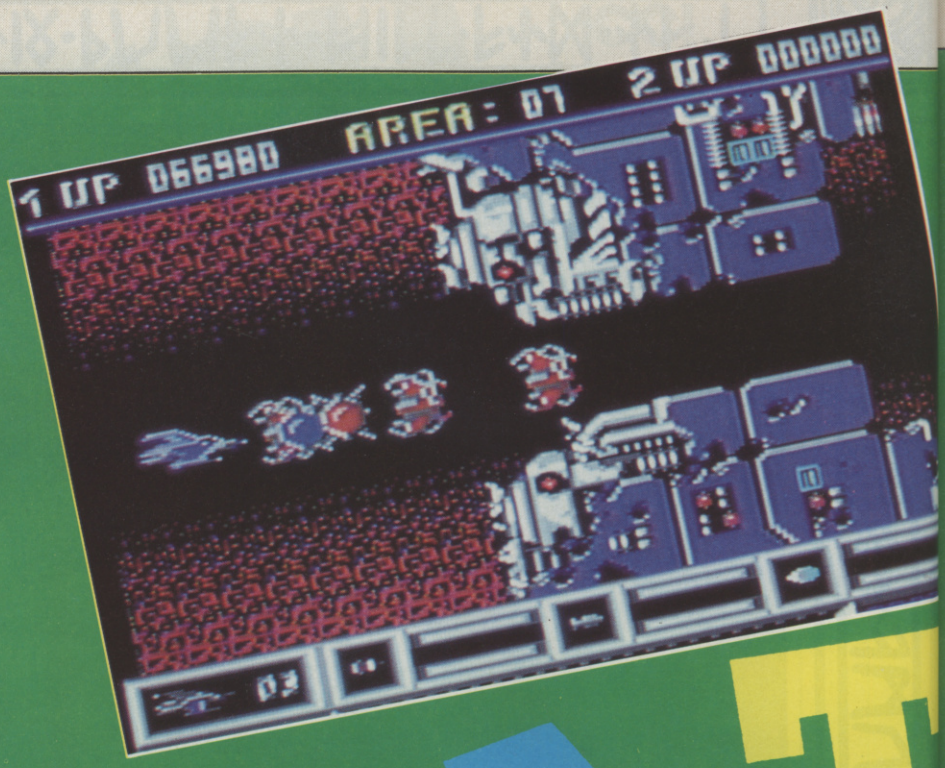


KAT

In the last couple of years there have been so many horizontal scrolling shoot 'em ups, that any new addition could easily be dismissed as just another Nemesis clone. Katakis comes under the "scrolly shooter" heading and while it could hardly be thought of as original, it can still claim to be one of the best of its type to emerge on the 64 scene. No mean achievement.

'When you reach the end of the level, a huge guardian dishes out a double dose of laser fire, putting up a harder fight than even those of Firebird's IO.'

Manfred Trenz and Andreas Escher of Rainbow Arts in Germany are the names behind the game. Thankfully I was spared a scenario (perhaps because I do not speak German) and left to figure it out for myself. There are twelve levels (each loaded separately) between you and your goal. The first has you flying through an asteroid storm set against a slightly over-full starfield. A standard laser is used to zap most of the aliens, but holding the button down for longer, releases one of two strengtsh of mega-lasers.

Occasionally the aliens drop globes to be picked up for extra fire-power. Even bigger attachments can be gained by shooting the eyes that float across the screen. The best thing about the weapon system is that although everything is lost when you lose a life, a new set is quickly and easily built-up. When you reach the end of the level, a huge guardian dishes out a double does of laser fire, putting up a harder fight than even those of Firebird's IO. Their endurance is a little overdone in relation to the difficulty of the rest of the levels, and could be the cause of a fair bit of frustration. But that's the challenge isn't it?

I was lucky in that my review copy had a cheat mode to skip levels, otherwise I could have been at it forever trying to get that one level further. The second level is very much in the style of R-Type, complete with an excellent effect of the background circuitry fading in. A similarly detailed scene follows

with smooth parallax scrolling backgrounds. Number four has you flying through the alien-inhabited innards of a computer. I will leave the rest for you to discover, most of which will be very worth the effort. All these levels are made possible by the multi-load; cassette users could find this a major drawback due to the load between each level, but the disk version is as rapid as you could expect.

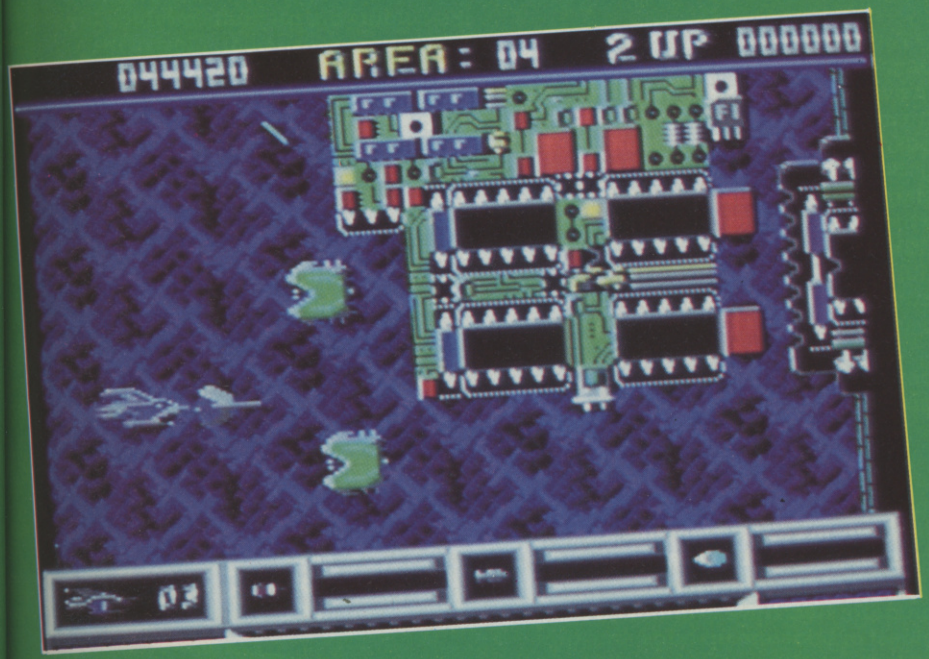
To match the classy graphics, each level has its own soundtrack playing behind the sound effects. My favourite is the title

KATAKIS

US Gold

tune which includes some realistic synthesised drums and a rumbling bass-line.

Nemesis variants are nothing new which makes Katakis look a little over-priced. However, it should provide an exciting distraction for all those hanging



on for the official R-Type conversion. In the closing credits following completion of the game I was pleased to see the programmers thanking the creators of R-Type, Darius and Salamander for their inspiration. Don't expect to whizz through the game; if ever there were a case for an auto-fire joystick then this is it! If you can find room to squeeze another scrolly shooter into your collection, Katakis will fill the gap nicely. Highly recommended.

T.H.

Graphics: 85%
Sound: 90%
Playability: 84%
Overall: 86%
Ratings: Mega
Price: £9.99 (c)
£14.99 (d)

Amiga

Naff

STREET FIGHTER

Go!

With all its resolution, colours and blitter, the Amiga must be a prime candidate for a conversion of the enormous Capcom Street Fighter arcade machine. That is not to say the almost perfect imitation that is possible will be the end result, as has been proven by US Gold.

One on one beat 'em ups are nothing new, but stick some giant sprites on the screen and some pressure-sensitive "hit" pads and you have a winner on your hands. At least that goes for the coin-op which, of course, had the hardware and programming talent to do them justice. A look at a still screenshot could tell you that programmers Tiertex have done an excellent job in the Amiga conversion. On the other hand, five seconds of playing the game will lead you to think just the opposite.

You are given the choice of starting in one of four locations from around the world, I suppose to avoid frustration for anyone not able to pass the first level. This would seem a good idea until you realise the simplicity of beating opponents which is one of the game's biggest flaws. All the usual kicks and punches are here with no new additions. High, mid and low kicks and punches are obtained with the usual joystick and fire button positions. According to the instructions, the shorter length of time you hold the fire button, the stronger the blow will be. A good way of replacing the pressure pads you may think, but the program responds so slowly to your movements that a quick tap does absolutely nothing!

Worst of all is the fact the programmers have overlooked the oldest of beat 'em up bugs: the low kick cheat. Using a variety of moves gets you nowhere fast, so you duck your opponent's chops and kicks, and flick away at his feet. The enemies are so thick they do not realise and continue to aim above your head while you ankle kick them to death. This kind of oversight has appeared in so many karate games in the past that it should be at the top of the playtesting list. Yet it seems it isn't!

"Worst of all is the fact the programmers have overlooked the oldest of beat 'em up bugs: the low kick cheat"

Although some of the still sprite frames are very close to the original, the colours are all pretty morbid. Animation is also poor. Most of the moves are animated in one frame. The exceptions are the spinning kicks which have two (one facing left and one facing right) and the similar somersault. In fact the game plays almost identically to the UK 64 version which was a total cock-up. No sound effects have been included, just a boring tune. So there is still no outstanding beat 'em up for the Amiga. Save us System 3!

T.H.

Graphics 64%
Sound: 39%
Playability 22%
Overall: 27%
Rating: NAFF
Price: £24.99

Do you Katakis?

Do you know what Katakis means? You don't? Well, neither do we! Not even the brilliantly intelligent and totally delicious Tracey at US Gold could tell us either. All we do know is that it is such a terrific game that even the horribly hard-to-please Tony Horgan thought it was very playable indeed. Now that means that everyone else will love it! But that still doesn't take us very far in the search for a meaning of the word Katakis. The also delicious Niki the Kamera is away sunning herself in the Med and so she can't tell us if it's Greek but while Tony the Horg burns up the screen and blows away everything in sight, US Gold has asked us to challenge you to tell us what Katakis means – inventing if you have to and you will have to, of course.

All you have to do is read the review of Katakis (which may not help you all that much!), in this issue of CCI and using your imagination tell us:

1. **What does it mean to katakis someone?**
2. **If Tracey were wearing a katakis what would it be?**
3. **How would you eat a katakis?**
4. **If you won a katakis, where would you keep it?**
5. **What would call a sequel to Katakis?**
6. **Where would you find the nest of the Gold Katakis?**

Now if you can use your imagination well enough to produce some really katakis answers, then you can win a terrific portable CD player and the top CD of the charts to play on it. The next 15 runners-up will each get one of the US Gold T shirts brought to their doors. So all you clever katakis out there, katakis yourselves and send us a katakis with your answers written on a postcard please and we'll katakis them at once, or rather Comp Princess Teresa will. They have to katakis us by the 30th of November 1988, precisely at katakis o'clock or only a few katakis later. To CCI/Katakis Comp, 40 Bowling Green Lane, London EC1R 0NE.

And now get Katakising!

P.S. US Gold's Tracey is very Katakissable!

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BARGAIN BUCKET

Here at CCI we are on the verge of drowning in the sea of budget games that has flooded the offices. We thought it was about time we poured a few over you in, separating the cheap and cheerful from the cheap and (sometimes, very) nasty.

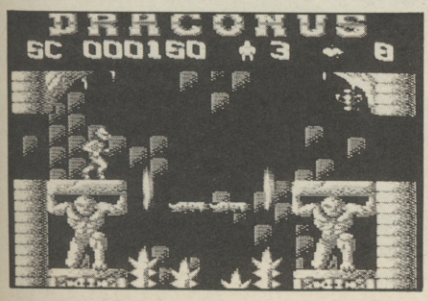
DRACONUS

Zeppelin

A multi-screen arcade adventure is Zeppelin's follow up to their popular zapper Zybex. Your mission involves the destruction of the Tyrant Beast who has seized power of your planet. Two slimey creatures are under your control during the game: out of water you play the part of Frognum, whilst Draconewt is your sub-aquatic form.

Various types of aliens guard the screens in their own ways, ranging from plain balls to excellently animated dragonflies. The exclusion of an energy meter leads to a few unexpected deaths but apart from that the game is very well presented. Some nice graphics and sound effects put this among the best buys this month.

Rating: 8/10



EUROPEAN 5-A-SIDE

SILVERBIRD

Unlike most football games, 5-a-side takes a bird's eye view of the game. The pitch takes up about three vertically scrolling screens, enclosed on all sides by a wall. Nothing particularly adventurous has been attempted in the kicks and moves available, just a chip and a ground pass have been included.

Its graphics are very plain and most of the game is played in silence. occasionally broken by above average crowd cheers and whistles. Unfortunately the game forces you to take almost identical shots every time due to the limited control. However, its dual player mode will provide enough entertainment for your money.

Rating: 7/10

BEACH BUGGY SIMULATOR

Silverbird

The idea of driving a beach buggy over a course of sand dunes, shooting helicopters and bouncing over rocks sounds inviting. This could give you the impression that Beach Buggy Simulator is a Buggy Boy look-alike. In fact it takes the form of a very uninteresting horizontal scroller.

Placed behind the dunes are rocks and fireballs that cause the buggy to explode on contact. Helicopters occasionally fly overhead to be shot for points. BB Sim's appeal is extremely limited, being a bore right from the start.

Rating: 4/10

STUNT BIKE SIMULATOR

Silverbird

Another promising game conjuring up images of Eddie Kidd-style stunts and death-defying leaps over busses. Again the game fails to live up to its potential.

Five tasks make up the game, starting with the hang glider stunt. You control a riderless bike zooming along the road underneath the hang glider rider. Pressing the button drops him onto the bike (or onto the road depending on your timing). Other events include log jumping, lorry catching and helicopter hanging. Boring gameplay and feeble graphics put this on par with the rest of Silverbird's releases this month.

Rating: 4/10

cont. on next page

continued from page 63

BARGAIN BUCKET

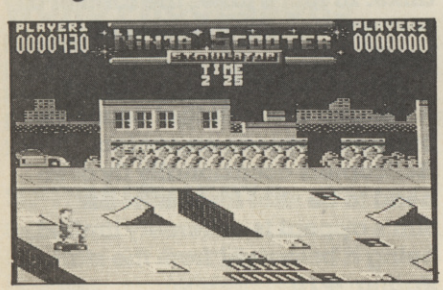
NINJA SCOOTER SIMULATOR

Silverbird

After playing Ninja Scooter Simulator it seems Silverbird have decided that their games' titles are more important than the games themselves. Someone obviously had the idea of combining the names of all the most popular budget releases and writing a game around the result.

What you end up with is a sloppily put-together version of Metrocross. A crippled kid with bendy limbs scoots across each course, jumping over ramps, walls and potholes, performing spins along the way. Graphics and sound are extremely basic, and combined with the loose programming make it one to miss.

Rating: 4/10



AIRWOLF

Encore

Five top US scientists have been taken hostage and are being held in an underground base in the Arizona desert. You are Stringfellow Hawke, a chopper pilot from 'Nam (of course) who has been sent in to free them with more than a little help from Airwolf.

A helicopter is the last form of transport I would have chosen to negotiate the pokey subteranian caves. In practice it proves to be just as tricky as it sounds. Defence systems must be avoided or disabled as well as avoiding collision with the rock walls. A good feeling of gravity has been incorporated in the controls that makes life harder. Everything moves very smoothly and at a fair speed resulting in one of the more challenging cheapies of the moment.

Rating: 7/10

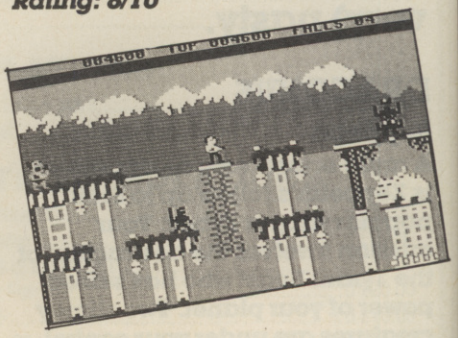
BRUCE LEE

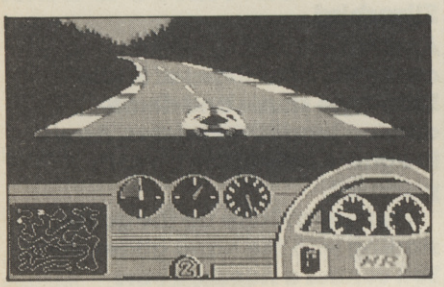
Americana

At a glance Bruce Lee looks as if it should have been left in the misty past of computer gaming. In terms of graphics and sound it could hardly be further behind today's standards even though it still plays amazingly well.

You get to play Bruce Lee, the famed martial arts master on a quest to defeat an evil wizard and claim his abundant treasures for your own. The wizard's castle den is a maze of chambers filled with platforms, vines and traps galore. You are constantly pursued by a fat green sumo wrestler going by the name of Yamo, who can either be controlled by the computer or a second player. Its blocky graphics are easily overlooked as you get involved in an excellent mix of platform, beat 'em up and arcade adventure.

Rating: 8/10





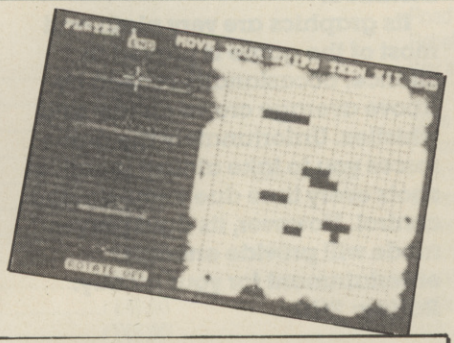
NIGHT RACER

Mastertronic

Straightforward 3D race games are nothing new but at a budge price are far more attractive. Night Racer is such a game that is very similar to Epyx Super Cycle, only without its graphical flair.

A smooth road carrying one way traffic extends into the distance as we have seen so many times before with you motoring past inferior traffic. An original and very effective outline of a dark forest lines the road which makes a change from the scrolling horizon. Owners of Pitstop II or Super Cycle need not apply although it will provide a cheap and enjoyable piece of road action for anyone else.

Rating: 6/10



BATTLESHIPS

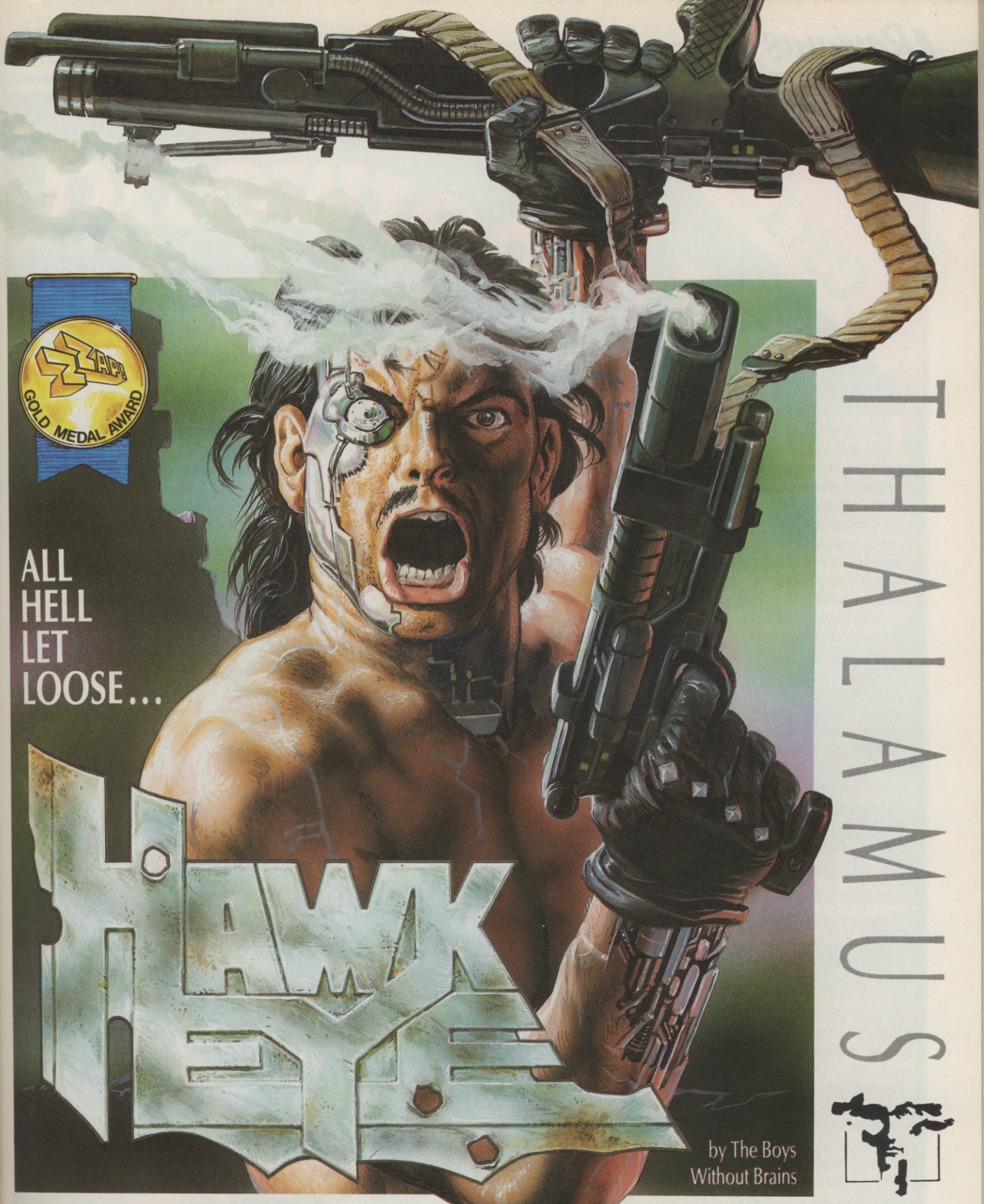
Encore

I confess I never thought Battleships could work as a commercial computer game. Though there has been a recent Amiga version. After playing Encore's version I am still not entirely convinced. During its computerisation it has evolved graphic sequences between turns and an opponent for the lone player.

Blowing the enemy ships out of the water is just a matter of luck and common sense strategies. For anyone who is into Battleships this would make a good little game, but I cannot pretend I found it a barrel of fun.

Rating: 6/10

T.H.



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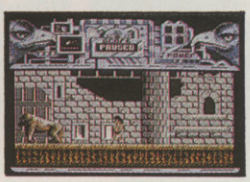

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C64

CRISP

Netherworld

Hewson

In tune with their fine reputation, Hewson's latest release is another smooth-flowing shoot 'em up. If you thought Stavros Fasoulas (programmer of Sanxion, Delta and Quedex) was a mouthful, have a go at pronounding Jukka Tapanimaki and Jori Olkkonen, the names equally Finnish behind Netherworld.

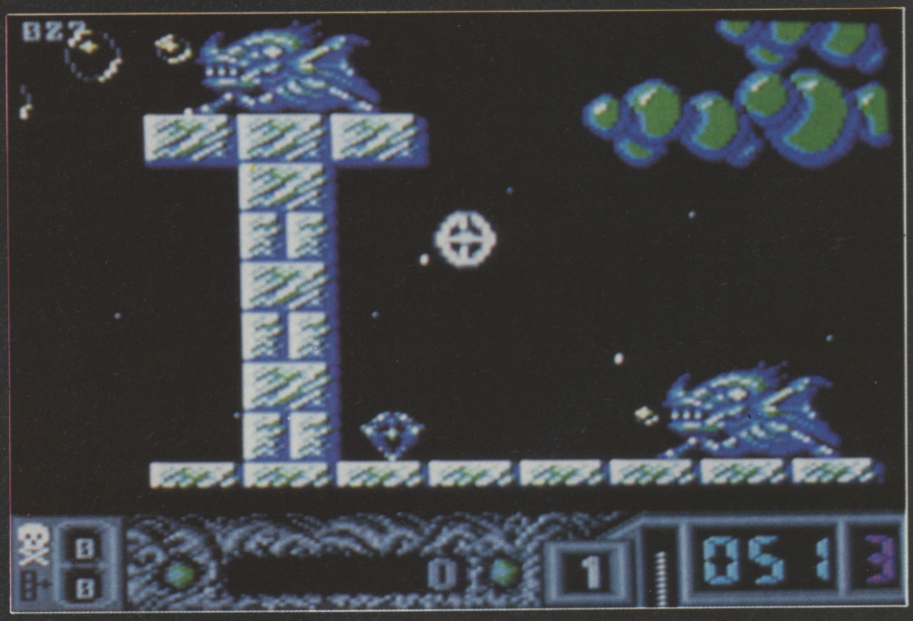
The game is played over a number of multi-directionally scrolling mazes, some formed from bubbles, others from planets or skulls. A set amount of crystals are dotted around the mazes to be collected within a time limit. Your transport comes in the form of a spinning ring, able to shoot in four directions at once.

'The most important icons are those that let you blow up walls to get to further stocks of crystals'

At certain parts of the maze you will find stone dragons blowing bubbles which spit energy-sapping bullets. This is where your lasers come into use; some bubbles when shot leave behind bonus icons to be collected. The most important icons are those that let you blow up walls to get to further stocks of crystals. Collecting egg timers gives you a bit of breathing space and a number of teleports also help when time is against you. Some parts of the maze walls can be passed through. These look identical apart from about two or three pixels of slightly different shading. Luckily they are in obvious places and are easily found by bouncing along the walls.

Once all the crystals have been collected any of the teleports will take you to the bonus level. This little puzzle reminded me of Boulderdash: a mine follows the perimeter of the screen and must be guided to a store of metamorphosis blocks by bouncing it off a couple of eggs. With each level the maze gets more complex, including more mines and teleports. Excellent bit of work this.

Netherworld is not a copy of any particular game but has a very familiar feel to it. The shoot and collect maze action has all been done before. Even so everything has been very, very well programmed and presented extremely neatly. The slightly tune-less guitar music that opens the game and attractively shaded graphics give a good first impression but the game could fall after a while, though as ever with Hewson you can enjoy and admire the outstanding quality of the programming and design. What a shame more games houses cannot reach this standard of entertainment.



B.V.

Graphics: 80%
Sound: 78%
Playability: 60%
Overall: 65%
Rating: CRISP

Price: £8.95 (c)
£12.95 (d)

C64

Naff

To Hell and Back

CRL

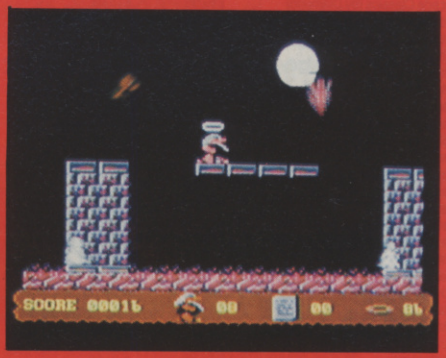
Since the boom in budget games, a distinct style has appeared. Only a short length of time is spent on them and it shows, but that's all part of the cheapo system. Perhaps that has been a dangerous process for as I have a problem in playing on a 64 after an Amiga game, so it appears the opposite may apply to programmers and they incorporate the budget habits into a full price release. And that's dangerous for the company that publishes it. To Hell and Back is *not* in the budget price range although it unfortunately bears all the characteristics of one; the whining tune, the unoriginal design and the tacky graphics.

You play the part of Archangel Bertram on a quest for the Ten Commandments. Your journey through the Netherworld is a horizontally scrolling adventure riddled with ghosts and monsters of all kinds. In fact, it all looks like a weak Ghosts 'n' Goblins clone.

It starts at the perimeter fence of a graveyard which soon gives way to a series of fire-pits. Tubby ghosts rise from the earth and waddle towards you. Taking your halo from your head you throw it boomerang-style at the on-coming enemies, sending them up to heaven (perhaps!) As you venture further into the game you will encounter a big wolfman who guards the entrance to the second level. With each section, new monsters appear, none of which come anywhere near the spookiness of the zombies and spitting plants found in the original Ghosts 'n' Goblins.

I was surprised at the smooth scrolling, something CRL has in the past seemed to find difficult to achieve. That aside, this looks every bit a recent CRL game. Small points such as the glitches where the screen is split, and sprites that expose the shrunken scroll area by appearing from behind the blanked-out columns lead me to think the programmer was too lazy or inefficient to finish the job properly.

Even without these niggles To Hell and Back is very drab. Uninteresting brickwork and rocks provide a background for the blocky, stumpy sprites to slide over. There is no escape from the horrors either, they just keep on coming one after the other until you reach for the power switch. If all this has not yet driven you up the wall, the wailing soundtrack will finish you off.



Included with the game is Moon Crystals, the author's first game written in machine code. It would hardly look out of place on a ZX81 but, I suppose, is better than a slap round the face with a wet fish (just). Bearing in mind that Elite are about to re-release their excellent conversion of Capcom's original coin-op on their budget Encore label, To Hell and Back would be a foolish buy. Ah where is the CRL that used to be?

T.H.

Graphics: 34%
Sound: 28%
Playability: 30%
Overall: 30%
Rating: Naff

Price: £9.95 (c)
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FANZINE FILE

Fanzines perform a valuable service for regular magazines by giving potential writers practice and at the same time create interest in special areas. Robert Troughton reads some of the best.

A fanzine is, fairly simply, a home-grown magazine. Like home-grown software, the publishers have none of the equipment used by 'the professionals'. But the actual information contained in the fanzines is sometimes up to the standards of fully-developed magazines. The biggest problem for fanzine-writers is the cost of photo-copying each issue. Anyway, I took a look at a batch of new fanzines, and chose the better ones for review...

Fanzine File No. 1: THE BUG

Cost: 50p (including P&P) – monthly

The Bug is the largest fanzine I have seen yet – and (oddly enough), its the cheapest! Each issue is 80 A5 pages (20 A4 sheets of paper, double-sided). Most of the fanzine is full with reviews, which include screen-shots – though these are of poor quality (but that can only be expected). The Bug often features some very good offers on new games – for example, if you subscribe for 4 issues or more, you can buy PHM PEGASUS, OINK, SLAINE, and others (Spectrum + Amstrad only in this particular issue), at just £1.50! The latest issue on The Bug (issue 33) has very few C64 features in it – but this was promised to be back to normal in issue 34. Other features in the Bug include Adventure (with reviews and tips), News, Interviews (with companies like Piranha and Mattel), Previews (issue 33 has a Dark Side preview), Competition (some are quite good, with games as prizes), Utility Reviews, The Chart (with the Vampire Tadpole!), and more. The Artwork contained inside and out of The Bug is excellent! The Bug is well worth getting, and at 50p, you could try at least 1 issue!

Contact: The Bug, 28 Leaside Avenue, Muswell Hill, London, N10 3BU.

Fanzine File No. 2: SOOTHSAYER

Cost: £1 (including P&P) – monthly

Most of the fanzines I have seen have all been around 40 pages of text (40 sides of A5 paper) – Soothsayer is another. Soothsayer is strictly for Adventure Players, so gamesters will not like this fanzine (unless you are like me, and like adventures as well as arcade games!) Solutions and Maps to new games is the backbone to the fanzine, with little else inside. Why? Because John Barnsley, the new editor (the old editor left) has not got access to his own photocopier, so gets somebody else to do it for him – at a good price. But this person just happens to be X-editor (she recently left the fanzine for some reason) of Adventure Probe (another fanzine which I liked), so John is limited to the features he is allowed to include! The solutions in Soothsayer are all 100% solutions, and most include detailed maps – the maps take up a large amount of the pages in the fanzine. Other features include Help offered/wanted, mail-order software, sales, and news. That's about all there is to say about Soothsayer. It is an excellent fanzine – if adventure solutions and maps is what you are looking for. If not try something else....

Contact: Soothsayer, 32 Merrivale Rd, Rising Brook, Stafford, Staffs ST17 9EB.

Fanzine File No. 3: ADVENTURE PROBE

Cost: £1.25 (including P&P) – monthly

Adventure Probe is all the features that Soothsayer has not got – reviews, hints, features (by adventure personalities), Letters, Help Wanted, Pats Patch (write your own adventure), Fiction, Serialised solution, Solution beginnings, telephone helplines, and help offered (King and Queens of the castle). Adventure Probe is already a very popular fanzine, and has done very well in its short life. It has recently had a change of editor, and Mandy Rodrigues now edits the fanzine. There's a great deal of information about mail-order adventures in Adventune Probe, with some really good titles in there. The helpline is a great feature, as it offers a method for adventures who are stuck in an adventure to ring the person up, and ask for help! The fiction is superb, and you might be surprised to know that Peter Gerrard (who writes quite regularly for CCI) writes his own story in the fanzine! Peter is also one of the many who writes regular features for AP, and recently wrote an article on 'Interactive Faction'. There are several pages of letters, which are always great. There are reviews of commercial and home-grown adventures in every issue. Overall, it is an excellent fanzine, and deserves to do well.

Contact: Mandy Rodrigues, 24 Maes y cwm, Llandudno, Gwynedd LL30 1JE.

Fanzine File No. 4: THE CHEAT MACHINE

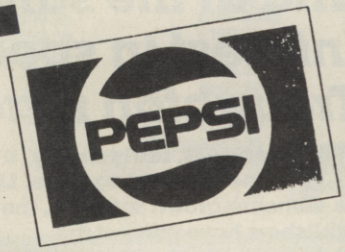
Cost: £1 (including P&P) – monthly

I left this snippet of information till last – I edited this fanzine! The Cheat Machine has around 100 cheats in each issue, many on brand new games, others on fairly recent games. Most of the fanzine is packed with cheats, but other features include Reviews, News, Budget, Adventure, Maps, Tips, Players Guides, Fiction, Sales, Wants, Adverts, Puzzle page, The Chart, and a couple of other bits 'n pieces. Because I wrote the fanzine, I won't tell you what I personally think of the fanzine – but it has got a lot of cheats, and if you like them, you will like The Cheat Machine. Regular CCI readers will have seen my cheats in Horgans Hints – well Tony doesn't have the space to print all my cheats, but I have plenty of space in TCM – and there are a lot of cheats!

Contact: Robert Troughton, 42 Browfield Terrace, Silsden, Keighley BD20 9PT.

Well, that's the lot: if you have your own fanzine, and would like to see it reviewed in this article, send it to me at the TCM address! CCI may let me review others in a couple of months time!

500 GOLD PEPSIS!



No, not solid gold but US Gold. You probably know by now that (if you don't, look at the news pages in this CCI) that US Gold has linked up with the worldwide cola drink company. Sorry, but that doesn't mean that you get a lifetime's supply of Pepsi with every US Gold game you buy. It means that you can get involved with things like the Pepsi Challenge and their Taste of America campaign through buying US Gold games and vice versa. Certain US Gold games will be specially selected for this collaboration.

The early releases of this world power partnership are to be a special game called Mad Mix, a spectacular ghouls and demons extravaganza and the Pepsi Challenge Game of the Year, the eagerly awaited coin-op conversion, Thunderblade. High score earners on this will go forward into a giant prize draw.

We thought we'd have a Pepsi Challenge of our own – to see if you could win a load of Pepsis – 500 of them. So the lovely Tracy of US Gold will be sending one hundred cans to each of five lucky winners and a US Gold T-shirt to spill them over!

All you have to do is tell us which of the four games mentioned in the story were originally coin-ops. Easy isn't it? The first five picked out of the postbag will have a US Gold T-shirt, a Taste of America Compilation and one hundred cans of Pepsi dropped on them, sorry delivered to them.

Send your answers, on a postcard please, to:
US Gold's Tracy is Sweeter Than Pepsi Comp.
c/o CCI,
40 Bowling Green Lane,
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Come on, send in your answer now or we'll drink the lot!

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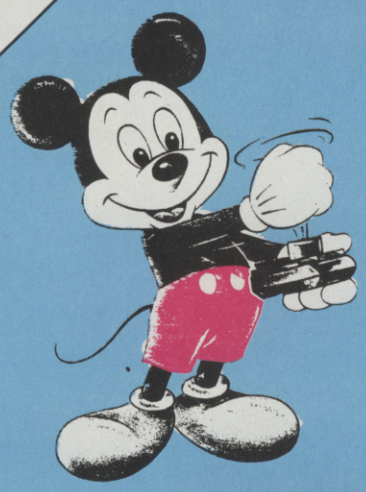
C64

IFFY



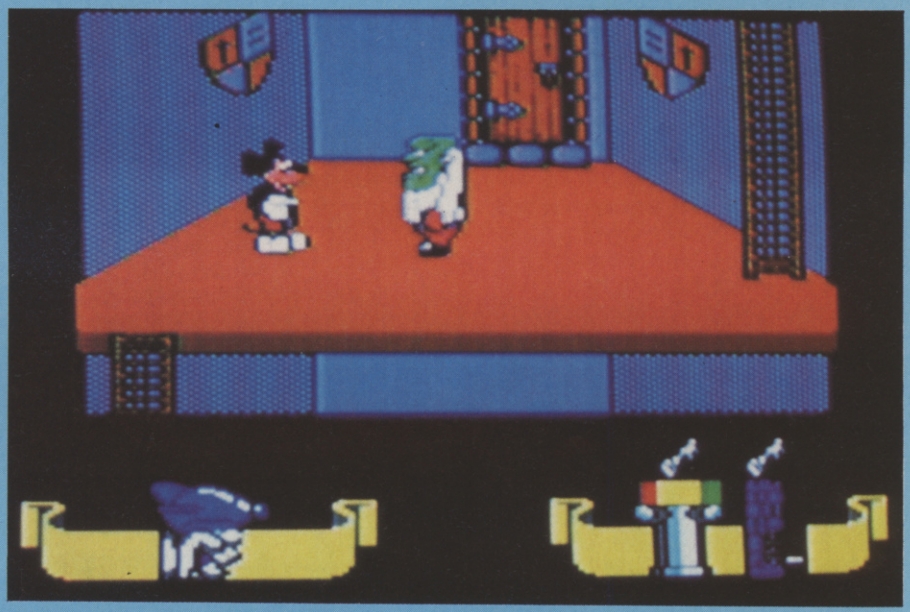
Mickey Mouse

Gremlin

Having bought the rights for a Mickey Mouse-based computer game, Gremlin must have wondered what they could do with it. After all Mickey is the most famous cartoon character of all. It looks to me as if they had a number of ideas and could not decide which to use, so they put them all together in the hope that they would make one decent game.

The story that holds it together goes like this ... Merlin's magic wand has been stolen by the witches of the North, South, East and West. Ordered by the Ogre King, they have broken it into four, taking a piece each. From the tops of the four towers they rule Disneyland in their own wicked ways. Merlin has given you (Mickey) a magic water pistol and a mallet, sending you away to defeat the witches and finally the Ogre King.

All four towers are split into a number of floors. Most floors have doors in the walls which lead to the sub-games. Before any of the witches are confronted, every door on the current tower has to be boarded up (don't ask *me* why!) by completing the sub-games. Graphically the tower is extremely bland, especially when compared to the Spectrum and Amstrad versions which feature ornate wooden balconies. All of us 64 gamers get is a plain brown floor and three blue walls; hardly a sight Mr Disney himself would have bothered to conceive. Ghosts, skeletons and ogres waddle about, draining your supply of magic water on contact. Some need a squirt from the pistol, others can be splatted with your mallet.



Once you find a key you can enter one of the doors. One of the four games now follows. I remember typing in similar games from magazines years ago. At the time, games involving catching a falling blob, or negotiating a maze, were good programming exercises, free and quite often fun. As part of a full priced game in '88 they are just too basic.

Mickey's sprite has been drawn very well but could do with some more fluid animation. As for the rest of the graphics, a few of the enemies are attractive but the background scenes are a real bore. A very hummable tune can be switched for a few quiet effects.

Surely your average sixteen/seventeen year old trigger-happy obliterator is not going to be that tempted by the Mickey Mouse tie-in, so I assume Gremlin are aiming it at the younger end of the market. If this is so, the designers may have over-estimated the patience of smaller kids, setting quite a substantial and probably too complicated task for the player of that age and ability. Unfortunately this probably leaves the game floundering in no-man's land with only its title to save it, which is a pity because for a younger player audience Mickey M. would surely be a great draw.

B.V.

Graphics: 43%
Sound: 62%
Playability: 47%
Overall: 50%
Rating: IFFY
Price: £9.99 (c)
£14.99 (d)

STARGL

Interstellar exploration comes right up to date with Rainbird's sequel to the very popular Starglider. A tremendous amount of hard work has obviously gone into its making, the results of which are immediately evident. It has 'class' written all over it. As almost no game before, it reaches out for levels of technical excellence and what is more reaches them.

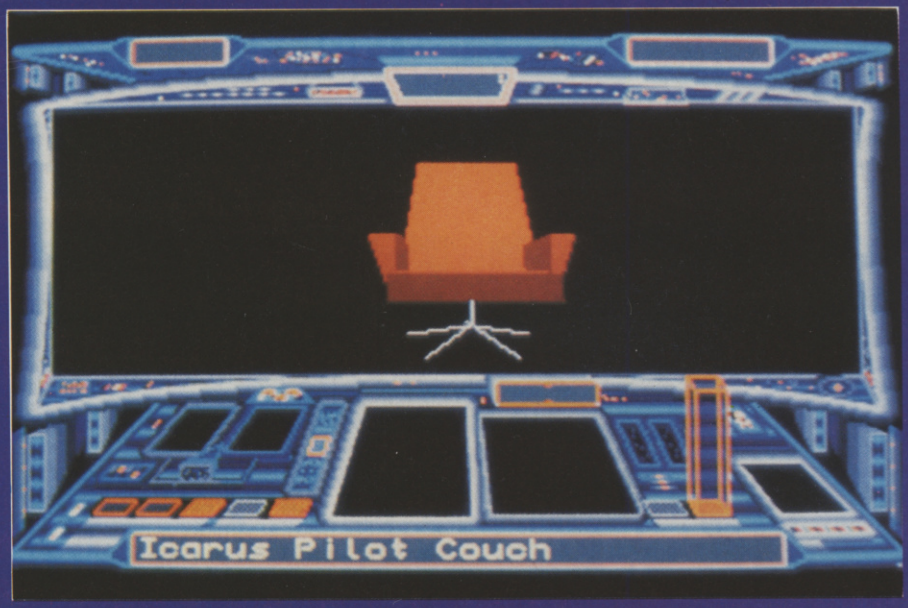
The first and one of the most impressive points is that the disk has been ingeniously designed so as to allow it to be loaded into either an Amiga or an ST, taking advantage of both machines' capabilities. Not only that, but a game situation saved on an Amiga can be loaded into the ST version, so ST and Amiga owning friends can swap status disks!

As you enter the game for the first time you could be forgiven for mistaking it for a simple Star Wars type game. Looking over the superbly shaded dashboard you can see a chequered floor sliding beneath you, dotted with occasional towers and guns. Even though the horizon is usually visible, objects only appear when they come within a certain distance. This avoids lots of unnecessary little items cluttering up the view and going unnoticed as you play.

With the game comes a set of three booklets: a novella that is used for copy protection, an instruction book and a key guide. The instructions are surprisingly well-written; helpful, easy to follow and even humorous in places. It is explained in these that the Egrons are building huge lasers on the seven moons of the planet Millway. These are to be used to protect the construction of an even more huge space station which the Egrons plan to use against Novenia. In the revolutionary Icarus starfighter it is your job to stop them. Just how to do it is one thing the instructions leave you to find out for yourself.

"The profiles of each planet come in handy here; how else would you know where to start looking for a petrified tree in a whole solar system?"

Apogee is where it all starts. It is the third planet from the sun of the Solice solar system. Four other planets make up Solice, orbited by



varying numbers of moons. In a similar fashion to Mercenary, many of the planets have tunnel networks with depots where extra weapon supplies can be picked up, some offering to trade minerals and other objects. The profiles of each planet come in handy here; how else would you know where to start looking for a petrified tree in a whole solar system?

You soon realise that to get anywhere you will have to leave the pale blues of Apogee and investigate the surrounding planets. As you power upwards the sky darkens and the stars come into view before pulling away from the planet surface. Once in space you can get your bearings from the positions of the planets and the sun. Hang around anywhere too long and fleets of space pirates attack your ship. The 'Head Up' sight projected onto your windscreen can be used to line up the enemy to a certain extent but your laser bolts tend to be rather inaccurate. Some of the enemy carry cargoes which can be collected after their destruction, others are just a pest.

Interplanetary travel is vastly sped-up by the use of the stardrive mode which blurs the stars as they fly past. Each planet has its own characteristics governing its colours and life-forms. You would expect to find a variety of spaceships and those of Starglider II are of neat but pretty standard designs.

Far more interesting than these is the range of living creatures that inhabit the worlds. Stomping walkers, birds, rays and stargliders are just some of the superb creations you will encounter. One depot even sends you off to find a mechanical whale! The design and animation of these is brilliant and outstandingly attractive to manipulate.

Rainbird

LIDER II

continued on page 77

Opinion

Brainblasted by something pink in London, suggesting you sell your dog to a kebab maker for a virus and finding a game with the playability of a partially decomposed haddock, Jeff Minter is back.

Greetings again Earthcreatures. Yak has just returned to Wales after having had an absolutely awesome four days in England . . .

One memory is burned into m'brain: that of a man standing in a spotlight playing th' electric guitar, really giving it everything. The man is Dave Gilmour, and he's playing the guitar solo from the end of 'Comfortably Numb' (the finest guitar solo known to Man, and quite probably the best guitar solo ever played by any sentient life-form in the whole Galaxy). I'm standing there transfixed, as would be anyone who has never had their brain removed by a Fender guitar before. And high above the centre of the stage is this weird THING, which is rotating and being blasted with lasers and lights and is just shooting off beams all over th' place and looks like a UFO on acid or a psychedelic supernova, and it's starting to split open . . .

Yeah, I've been to see Pink Floyd. All three UK dates, and believe me if I wasn't working so hard at the moment and I had some dosh, I'd be flying out to the States to see the few extra dates they'll be playing there before they finish their tour. It'd be worth it to see the best band in the world play the best music in the world to the accompaniment of the most outrageous, heavy, totally awesome lightshow ever seen (more lasers on that Pink Floyd stage than in flippin' SDI). I mean, I been to a lot of gigs, and some of them have been damn good, but only the Pink Floyd can just get you into a stadium and then blow your flippin' head clean off. Nothing like it. Anyone who went will tell you the same, and if any one of you didn't go, shame on you. And next time they come 'round, be sure to go, for your head's sake.

Anyway, enough raving and drooling and trying to turn you all into Floyd freaks. I've been having a good time on the ST and Amiga, too. I just got that Interceptor flight sim for the Amiga, and fine it is too. I only got it the day before I left for the Floyd, so I'm not really deep into it yet, but it's pretty hot: I particularly like flying the jet from an external rear view, a bit like the old Solo Flight game. Great sound FX too, pump 'em through the stereo for best effect.

Even so, Interceptor is not my total fave game at the moment. The game which has me totally in thrall at the moment is Virus. At present it's only out on the ST but the Amiga version is due Any Day Now. Virus is one of those exceedingly rare games where extreme technical skill has been used along with thoughtful game design to create an absolutely amazing game. It's the sort of game where 'just one more go' invariably turns into a three-hour session. As soon as the Amiga version appears, just go straight out and buy it. Sell your dog to a kebab house if necessary, only get the dosh and buy the game, lay in huge stocks of coke and fags and munchies, boot up Virus and prepare for honest-to-God old-style serious and total addiction. Virus even kept me off my PC-Engine for a few days, it's that good.

The game itself is basically a hybrid of Defender and Thrust. You fly a saucer-shaped Hoverplane thorugh a three-dimensional world blasting alien ships which seek to infect your world with a lethal virus. The control method is elegant in its simplicity, and a perfect example of how games could evolve to use more advanced controllers than the usual and primitive eight-way switched joystick. Using just the mouse and a Thrust button, you can fly your ship in 3D with amazing precision. And you'll need to; when you're in a dogfight with five angry Mutants you need to be able to fly instinctively and keep your cool, executing spirals and full-thrust power dives to get out of the lethal hail of bullets. All this while you're aiming and firing (in 3D it's pretty difficult). It'll take weeks of practice to learn to fly properly, but it's well worth the effort, and you can chart your progress as you go: first positive score, first Wave 1 Completed, first clean Mutant kill without using a heatseeker, first extra ship, first score over 10,000 . . . My only gripe is: where are the Smart Bombs which you had, as well as your Heatseekers, in the Archimedes version? I mean, Smart Bombs are such useful devices, the best weapon in the videogamer's arsenal, why were they removed?

Mind you, technical expertise on the part of the programmer doesn't always (looking at the stuff around at the moment I'd even go so far as to say doesn't usually) make a groovy blast. I bought a game the other day, twenty quid, same price as Virus: Return To Genesis, by Steve 'Goldrunner' Bak. Now, I liked Goldrunner, but felt that it was a bit easy and hadn't enough levels. I figured that RTG, being more recent, would therefore be a better blast. I was totally wrong. It's rubbish.

What irritates me is that it could have been totally ace, it could easily have been the 'Uridium' of the Atari ST, a totally-slick horizontal blast. Technically, the game is superb. Ace graphics, silky-smooth horizontal parallax scrolling at any speed from snail to stampeding llama, extra weapons, ten levels . . . and only two types of alien attack. In the whole flippin' game. One boring alien zips onto the edge of the screen and jiggles up and down firing; the other boring alien zips onto the edge of the screen and moves to either the top or bottom edge and just sits there firing. And that's it, the same through all the levels, although the alien graphics change (maybe the aliens jiggle faster on later levels but I didn't really notice). Another amazing piece of game design: your ship does a lovely Uridium-style flipover when you change direction, but for some reason known only to the game's originators, while this is going on you can't move up or down to avoid attack. And since that lovely flipover takes maybe half a second, during which you're a sitting duck, the usual result is that as you sit there admiring th' graphics some alien comes and shoots you up the arse. Two or three games of this and you're ready to put your fist thru the monitor.

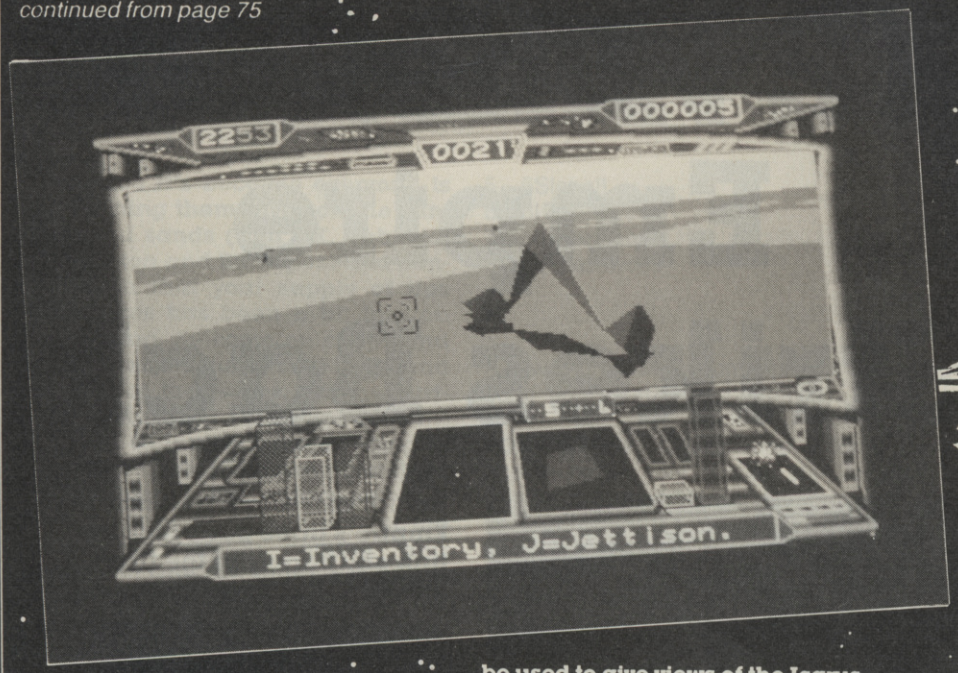
What some software houses don't seem to realise is that we're not buying just graphics demos. We want to play a damn game, not think 'Ooo! horizontal scrolling on th' ST, how groovy!'. A game can have the fastest, smoothest, most colourful graphics in the world and a Dave Gilmour soundtrack but it'll still be a crock if it has the playability of a partially-decomposed haddock. And as a game designer it just hurts when I see the wasted potential in a game like RTG.

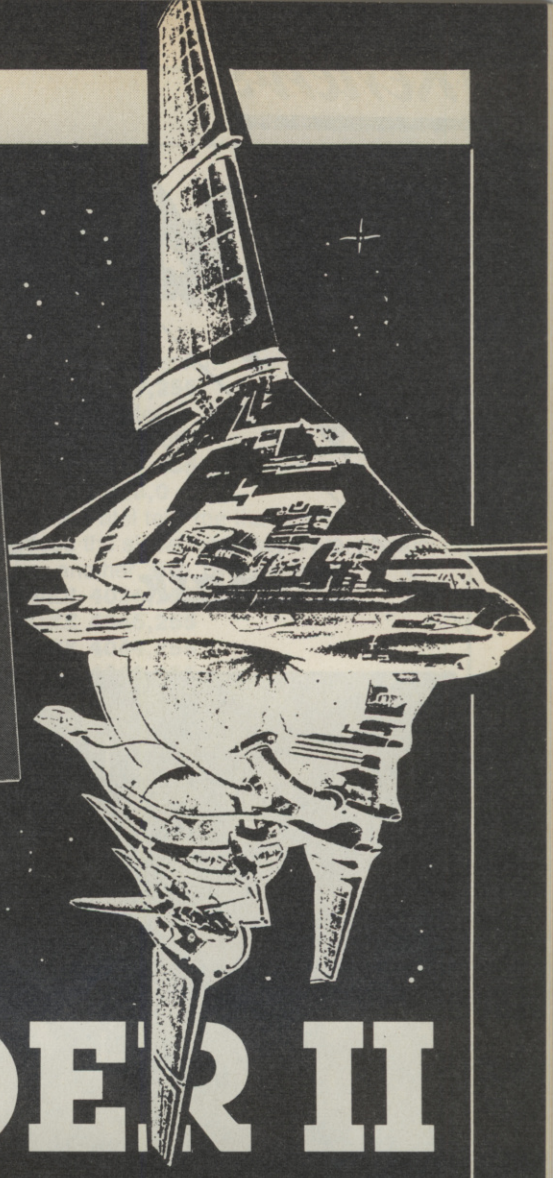
Okay, I'll split now, into town to post this off then back here, cup of tea, maybe a couple of games of Virus then back to work on my animation. And I'll try not to think about the bum trips in life-like unplayable games, getting shot up by a Mutant in Virus and Roger Walters leaving the Floyd; I'll concentrate on good stuff like Galaga '88 on the PC Engine, and nailing a Fighter for 900 points in Virus, and that awesome, amazing, brain-blasting animation and lightshow which accompanied 'Welcome To The Machine' in the Floyd gig.

Seeya all on the Darkside.

J.M.

continued from page 75





STARGLIDER II

Included amongst the pre-game options is one entitled "Painting with Rolf" (referring to the Aussie Mr Harris of course). This takes you through all the objects and animals found in the game, giving you control over their animation speed and letting you rotate them at various speeds through all three axes. The most fun part of this is the "paint" control which uses the object as a brush, tracing its steps as you move it around resulting in some amazing effects. That is just one of the excellent details of the game, refuelling the Icarus is another.

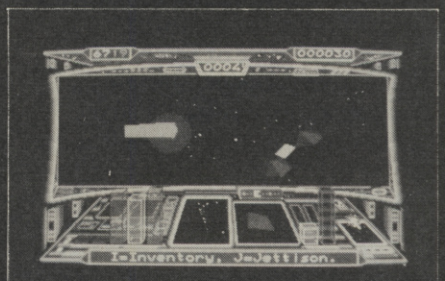
One method of refuelling is to fly at top speed along the sparking powerlines on the planet surface. Alternatively, you could hover around a volcano or fly dangerously close to the sun. Watch it though, the Icarus will melt if you get carried away! In fact the whole control room, icons and all, just drips away like hot wax. Marvellous. A classy piece of sampled music is played before the game starts and some very realistic effects do a lot for the game's atmosphere and realism.

In general the 3D is fast enough to keep the excitement up, only slipping in the tunnels. Unfortunately it all slows down here which can be rather frustrating when you realise you have been flying around in circles for the last five minutes. As in Interceptor, the numeric keypad can be used to give views of the Icarus from outside. For some reason, I cannot quite put my finger on it, it seems a lot more disorientating than Interceptor's equivalent, but perhaps my eyes are failing from too many hours before a games VDU.

Most of the game is spent shuttling back and forth from one planet to another in search of particular objects, and bearing that in mind

"Stomping walkers, birds, rays and stargliders are just some of the superb creations you will encounter. One depot even sends you off to find a mechanical whale! The design and animation of these is brilliant and outstandingly attractive to manipulate"

ther is not that much to it. Even so, the sense of freedom is immense. You are given just about the right amount of territory to explore, not too much as to be overwhelming but enough to feel like a whole solar system is at your disposal. Starglider II is an essential buy for Skywalkers everywhere! It may well turn out to be the game that does in 1988 for the Amiga 500 what Defender of the Crown did for the A1000 in 1986. Jez San, the leader of the Argonaut team, has surely earned his 'Jason'



captaincy and should be awarded a genuine Golden Fleece – or some such equally valuable award like an Oskar – for this brilliant effort. Buy Starglider II, you will love it!

T.H.

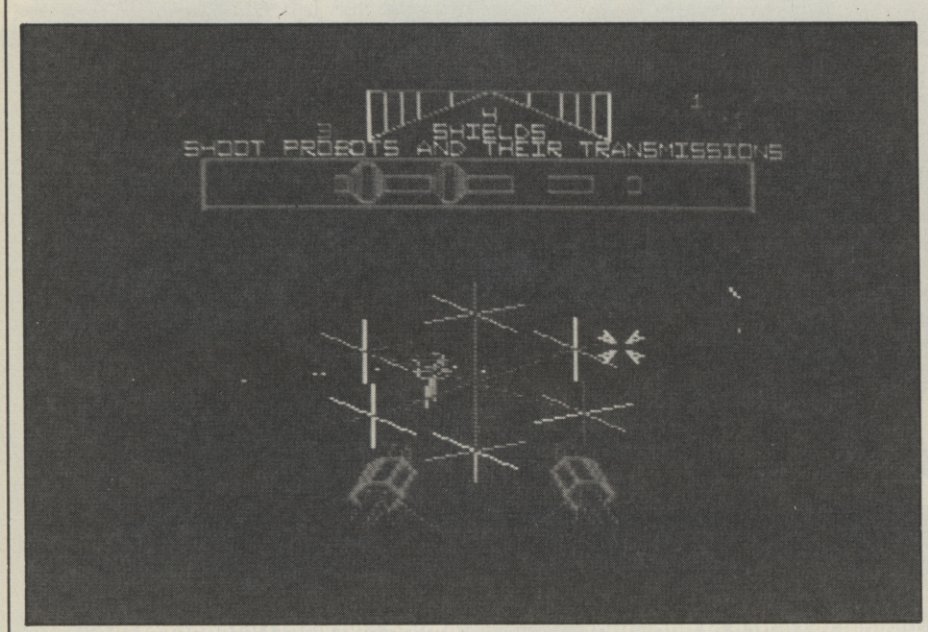
Graphics 95%
Sound: 89%
Playability 94%
Overall: 92%
Rating: AWESOME
Price: £24.95

C64

IFFY

The Empire Strikes Back

Domark



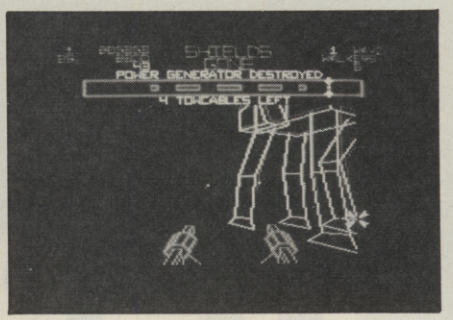
3D vector graphic games rarely work on the 64. For one thing the resolution is not fine enough, and for another, a lack of speed is always a major problem. Despite this, Domark have bravely converted the sequel to the old Star Wars coin-op onto the 64.

The first of the three stages has you taking the role of Luke Skywalker on the surface of the Rebel hideout. For some reason not explained in the instructions, a group of Probots are beaming pictures of the Rebels' power generator to Darth Vader. On sighting you they attack with sparky fireballs that can be destroyed with your lasers, as can the Probots themselves. Surviving the attack for a short time advances the game to the second stage.

Still on the sparsely-dotted planet surface, rather more interesting AT-ST's and AT-AT's appear on the scene. AT-ST's are a form of simplified robotic ostritch which stride around shooting more fireballs in your direction. Larger than these are the AT-AT's; four legged mechanical beasts that can be tripped by throwing tow-cables around their legs.

Finally you find yourself shooting through a meteor storm. With inadequate lasers your only option is to dodge them, resulting in the toughest if not a particularly exciting stage.

Star Wars was put together very logically, the three stages taking you through the highlights of the film in an appropriate order. First you were flying through space towards the deathstar, then it was down onto the surface before entering the trench. Empire's three parts lack the link and variety of the first episode.



As you would expect, the vectors are not fast. Far too much of the game is spent firing at small wobbling blocks of pixels that are too distant to recognise. Some good sound effects could have beefed-up the action but what sound there is, is no more than passable. Vector graphic action games really need a dedicated vector display or a 16-bit processor to create fast, smooth movement. It is really a pity that such an excellent film title should be wasted in this way. Without a strong concept, powerful hardware or outstanding programming skill, The Empire Strikes Back is just a slow, repetitive shoot 'em up with very litle going for it.

T.H.

Graphics: 45%
Sound: 59%
Playability: 41%
Overall: 43%
Rating: IFFY
Price: £9.95(c)
£12.95(d)

HORGAN'S HINTS

I suppose it's because everyone is out tanning themselves on the sun-scorched sands (well OK, pebbles) of Brighton and Blackpool and Bondi Beach that your supply of tips and pokes has been a bit thin on the ground. So come on chaps and chapesses, do the decent thing and get out of the waves, off the surfboards and roll those tips in!

Jason Quinn sent me a listing to remove Princess Mariana's clothes in Barbarian I, but unfortunately it had an error in it; look out for the de-bugged version coming your way soon! One last thing, I'm afraid I can't reply to letters asking for the whole back-catalogue of pokes, instead why not splash out a few quid on some back issues (the hints start from the December '87 issue)?

C64

Arkanoid (Revenge of Doh)
Don't let Doh bring you to sticky end (ha! ha!), just type **DEBBIE S** (with a space between the E and the S), *or* **CHEETAH** into the highscore table for infinite lives. Thanks to Jason Quinn and Spencer Riley for that one.

Marauder
Jason Quinn has fortunately found a much needed cheat mode for Hewson's latest toughie. Hold down **C=, Q, 2** and the space bar to disable sprite collision detection ("cheat on" will appear at the bottom of the screen).

Great Giana Sisters
Hold down **A,R,M,I** and **N** to advance a level, from Jason Quinn.

Platoon
According to Spencer Riley, after loosing all your lives on the tunnel section, when "rewind the tape" appears, hold down RUN/STOP and tap RESTORE. You should start the tunnel section again but when you lose a life "press fire to load the next section appears". Strangely enough it actually loads in the final section!

Sabotage
Some passwords from Spencer Riley:

Level Password

2 2Skinhed
3 3Yoppa!!
4 4Fat!!!!
5 5Slapa!!
6 6I♥Kets!
7 no password
8 no password

10

A few more pokes from Spencer Riley (load and reset before entering):

POKE 24969, x (exchange x for 0-3 depending on your chosen start level)
POKE 25080,173 (to keep your weapons after you die)
POKE 26330,3 (shows the level from beginning to end when you die)
SYS 24576

Bombjack II
To make all the sprites a bit larger than the average monster, load and reset the computer then enter these pokes from Faisal Patel:
POKE 3382,96
POKE 53271,255
POKE 53277,255

SYS 3303

Hades Nebula
Hmmm...now here's a coincidence: in the same month two readers made a discovery that scrolls the screen right up to level eight.

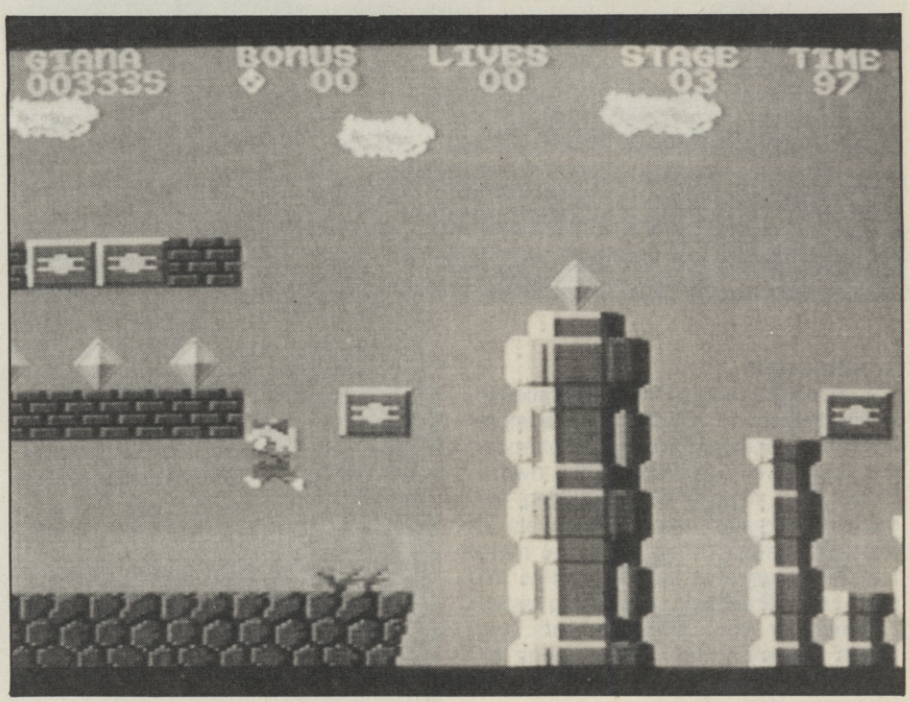
How? By entering:
POKE 3177,255
Stephen Moran also supplied these pokes for autofire:
POKE 3764,255
POKE 3908,0
Faisal Patel tells me that it is possible to cause the sidearms to separate, producing another ship by entering:
POKE 4026,255
POKE 4045,255
POKE 4064,255
POKE 4083,255

SYST 2198 restarts the game.

International Karate
For some unusual results when hits are scored, type in the following after resetting the game:
POKE 3887,50
POKE 3887,128
POKE 3887,60
POKE 3887,190
SYS 2112

Thrust
Changle the speed of the music (one of my faves from Mr Hubbard) by changing the 7 in the listing below (from Stephen Moran). Enter it after loading and resetting.

```
10 SYS 8225
20 FOR S=O TO 7:NEXT S
30 GOTO 10
```



Great Giana Sisters

continued on page 80

HORGAN'S HINTS

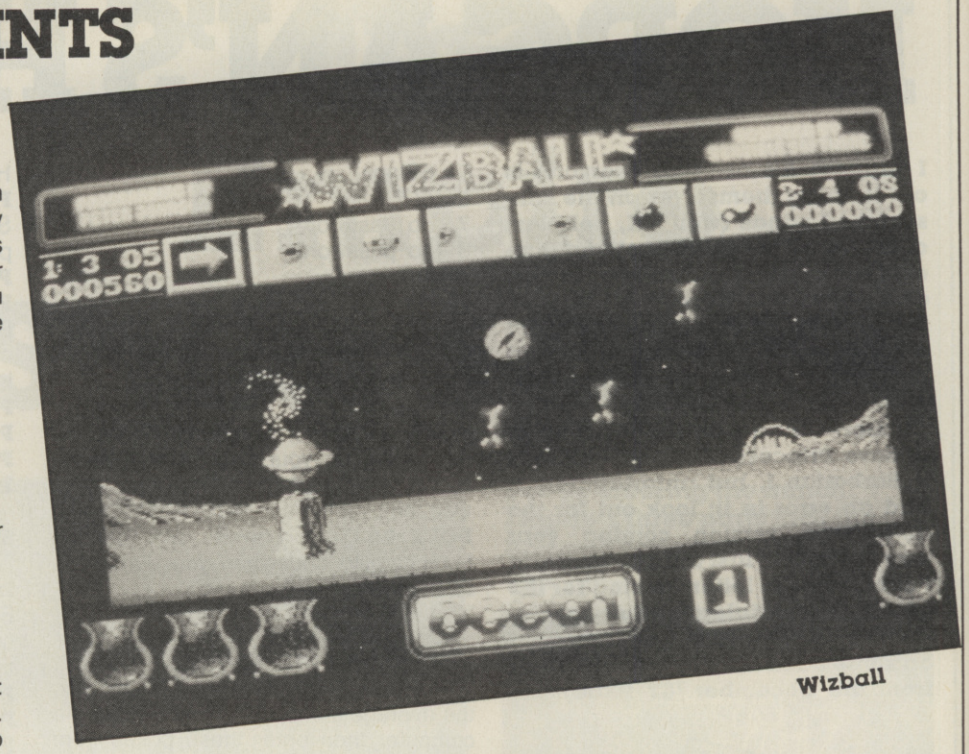
continued from page 79

Mega Apocalypse
More musical madness from Stephen Moran, this time for a trendite re-mix. Try experimenting by changing the numbers after the commas, but be prepared for some real ear-bending sounds! You guessed it, load the game and reset the computer before entering the pokes.

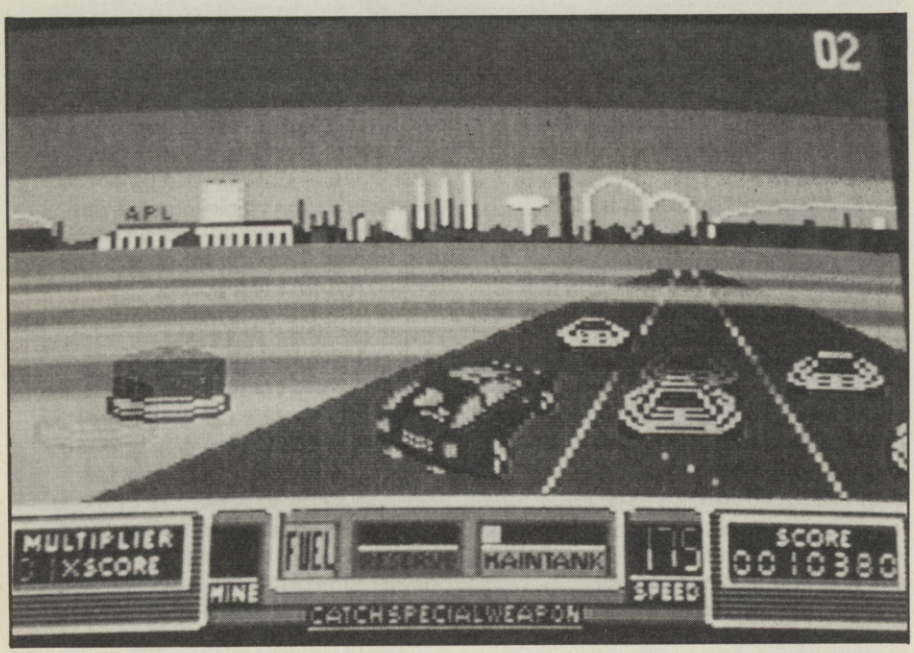
POKE 21841,170
POKE 21842,72
SYS 22562

Ghostbusters
A simple poke from Stephen Moran for infinite lives:
POKE 38454,96
SYS 25476
Rupert Bear

A simple cheat for a crumbly old game: press space and to advance a level. Coen Naninck from the Netherlands is to thank for that one.



Wizball



Roadblasters

Roadblasters
This is really a request for an alteration to rectify the sound effects i.e. allow more than one to be heard at once. In return for this, here are a few tips of my own:
* Your best chance of completing the game is to select the higher levels at every opportunity. This gives you more fuel in your reserve tank as well as the obvious advantage of progressing faster.
* Remember you can pass cars and mines that are in the outside lanes by driving on the *in*erge, handy when the lanes are clogged up.
* If you catch a nitro injector or cruise missile, use them all one after the other in immediate succession, otherwise you're likely to be blown up with un-used weapons onboard.

AMIGA

Just one for the Amiga this month but it is a goody.

Wizball
Although Mr Quinn forgot to tell me which game this was for, I managed to figure it out he was talking about Wizball. Press space to pause the game, type **RAINBOW** and press fire to exit the pause mode. Now pause the game once more and press C to fill the current cauldron with paint.

That just about wraps it up for this issue. More maps should be coming your way soon, there's just been a lack of mappable games at the moment; you could hardly get lost in Roadblasters, Katakis or Football Manager II, could you Anyway, I don't care because by the time you read this I'll be packed off to La Belle France, slurping expensive ice creams and working up a good bronzage a million miles away from smoggy old London town. Au revoir. Happy hacking!

Tony Horgan

HINT, HINT!

Horgan's Hints,
CCI
40 Bowling Green Lane,
LONDON
EC1R 0NE

C64

CRISP

FERNANDEZ MUST DIE

Image Works

When pondering the subject for their first 64 release, Mirrorsoft's new label Image Works realised that shoot 'em ups are making it big at the moment. The general feeling was that the Commando theme could be improved upon, so designer David Bishop teamed up with Tony Crowther to create Fernandez Must Die.

You have probably guessed the game's objective by now. For the slower ones, your mission is to overthrow Fernandez's dictatorship. Typical of Tony Crowther's games the title screen has some excellent special effects accompanying the scrolling credits. The graphical treats are not as noticeable once you start the game.

A somewhat tastelessly-coloured green and blue landscape opens up before you. All the action is viewed from directly above. The slightly off-centre viewpoint of Commando is not present however, meaning that a man is drawn as a helmet with stubby arms at the sides. Similar looking soldiers run about letting off random shots while planes fly overhead dropping parachuting enemies and supplies. There is an all action feel about the game that is in its favour.

Soon you find a jeep which gives protection from enemy shots and added speed. A different type of control method has been tried here, giving the jeep accelerating and braking rates which certainly does add a variety. A map can be called upon to check your position and plan your route across the huge game area. At some points in the game you will come up against a dead end. Look around for a door in the side wall which can be blown open with a grenade, leading to further enemy-infested levels.

A slight break from the main game comes along when you get into a prison. Here you get the chance to rescue some unfortunate pals from their cells. While all this is great fun, Fernandez Must Die lacks any particularly new aspects to make it stand out. Graphically it is untidy; the sprites are plain and often wobble, not what you would expect from Mr Crowther.

Fernandez Must Die does not leap very high over the existing games of this type, and I personally prefer both Commando and Ikari Warriors, though both are now probably difficult to find. Come to think of it,

"A map can be called upon to check your position and plan your route across the huge game area"

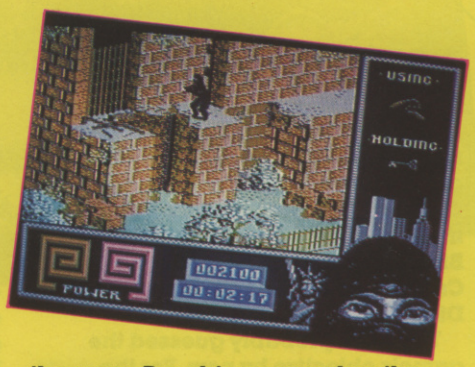
take away the grenades and map feature and you might be able to knock up an almost exact copy on Sensible Software's Shoot 'em Up Construction Kit (but then SEUCK is pretty advanced and I'm sure Messrs Bishop and Crowther would not agree). Fernandez is by no means original but it is fun and entertaining to play and for anyone who does not have a similar type of game, it would be well worth giving a try.

B.V.

Graphics 57%
Sound: 69%
Playability 62%
Overall: 60%
Rating: CRISP
Price: £9.99 (c)
£12.99 (d)

MEGA

The Last Ninj

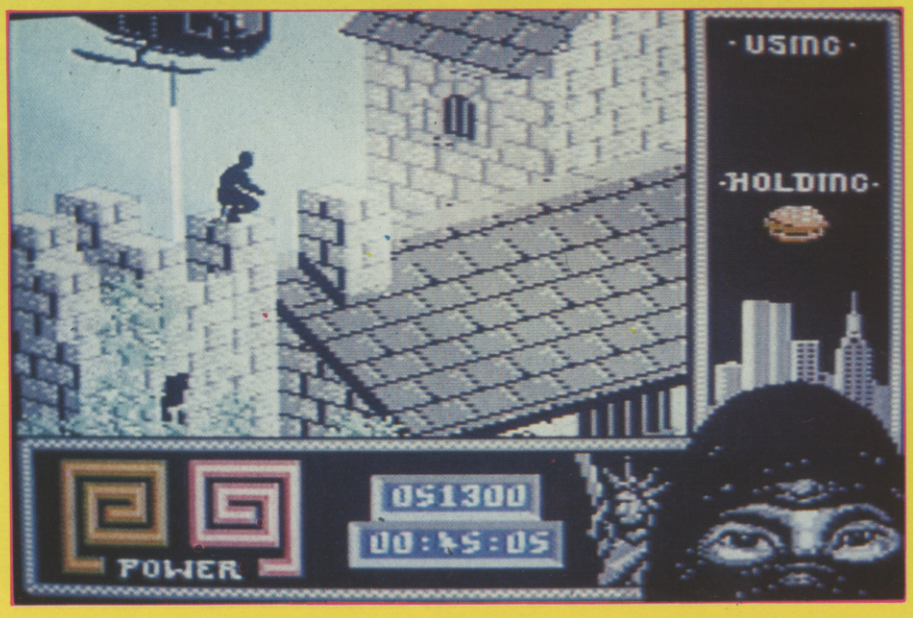


No-one has quite the same grasp of the beat 'em up as System 3. International Karate I and II, Bangkok Knights and of course The Last Ninja have made them hard acts to follow. You will be pleased to hear that Ninja II has not let tough guys System 3 down.

Ninja I was one of the best games of last year, and involved banishing the evil Kunitoki from your homeland. Not the type to be defeated by a single ninja, he has now travelled through time to the present, where he has set up a massive drugs ring in Manhattan. You have been summoned by the powers that be to pursue him once more and have been transported to Central Park, New York (which is supposed to be so dangerous that even Ninjas quail!) where it all begins.

As anyone familiar with the first episode will know, the Last Ninja needs more than his skilled fists and feet to get anywhere. Screen one is a deserted bandstand with only one apparent exit. Through the door you encounter the first enemy. Give him a bruising to buy some time to explore the room. Punching a panel on the wall reveals a trapdoor in the first screen; that is the earliest and one of the easiest puzzles solved. Further exploration of the park reveals that Kunitoki has somehow gained the following of the police and given them orders to attack you on sight. Graphically, the park is reminiscent of the first level of Ninja I but with more detail.

Much fighting and puzzle solving later you emerge into the streets of the city. All the shops and houses are brilliantly and realistically coloured and detailed. Keep an eye on the traffic lights when you cross the road to avoid a nasty and painful collision



ja II

MEGA

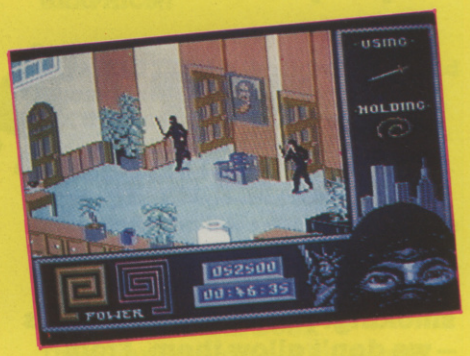
System 3

with a speeding motorbike. Also bear in mind that not everyone you meet will be after your blood, just most of them. Paying close attention to your surroundings, searching in every nook and cranny is the key to the completion of the second level. If I told you the next scene was set in the sewers it should give you a big clue! (So I won't!)

Here it is more a matter of trial and error than the evolving of logic problems. For that reason and the relative lack of detail in the screens, this was my least favourite level.

used in the making of the variety of plush furnishings, given a great solid 3D feel thanks to John Twiddy's coding.

The final level is made up of a mere two screens, but these far more detailed than the rest. Designers Mark Cale, Phil Harrison and Tim Best have put in a proper end sequence to make up for the total lack of one in the first game. Priced at £12.99 on cassette and £14.99 on disk this Ninja will leave your wallet slightly lighter than most. For your extra three pounds you get a rubber shuriken star, a 64 page novella, a scroll and a ninja mask.



but there is not that much call for them anyway.

Ninja II doesn't make the same impact as its forerunner due to the obvious similarities, but it is every bit as good and even better in many places. With elements of a beat 'em up combined with an arcade adventure, all held together with some superb graphics, Ninja II will keep you mapping, kicking and puzzling for a long time to come. Were it not for its lack of originality, this would deserve an 'Awesome' rating. It is fully worthy of a Mega rating. Highly recommended.

T.H.

Things pack up again in the office block. The restrained atmosphere is set by the neat arrangements of desks, table-lamps and typewriters. Hugh Riley, the artistic genius behind Bangkok Knights, (and early Amiga User Rolls Royces) Predator and Ninja I really shows his class in the house (level six). Amazing amounts of detail and colour are

With each new level comes a new soundtrack from Matt Gray, preceeded by a composition as the level loads. These change pace and mood to match the setting, though the sewers piece is a bit over-sombre, verging on the snoozeworthy. Although I prefer Ben Daglish's tunes from Ninja I, Maestro Gray has done a fine and melodic job. Some sound effects would have been agreeable,

Graphics: 95%
Sound: 79%
Playability: 90%
Overall: 91%
Rating: MEGA
Price: £12.99 (c)
£14.99 (d)

PUT OUT SALAMANDER'S FIRE!

Ocean/Imagine's hot new game is Salamander, a horizontal shoot 'em up that is going to be a must for fans of the blast away kind. At CCI it got stuck on our screens while everybody blew away everything in sight. The monitors were practically smoking! (No, not from ciggies – we don't allow them. From the burn up, screen firing!)

If you get hold of Salamander, you might have to call the fire brigade for your incendiary joystick!

So we thought that we would have a competition on Salamander and Ocean – thank you Paul Patterson – have given a smashing prize, a camera that you can user under water! Where no doubt you'll have to dive to cool off after a red-hot session with Salamander . . . While you are there you can capture all the sharks etc you see on film with a Canon A5-6 Weatherproof camera which you can use up to (or should it be down to?) a depth of ten metres. What more suitable prize could a company called Ocean give you than something to use under water? (Even in your bath, if that's what you really want and can't afford a trip to the Barrier Reef!)

All you have to do to win this Oceanic prize is to answer the questions.

1. What is a Salamander?

2. Where, in mythology, is a Salamander supposed to originate?

3. What are the four mythological elements of which Fire is one?

4. Who designed the graphics for Imagine's 64 version?

5. Name two Ocean games that have hit No. 1 in the Charts this year.

Done that? Then get the answers onto a postcard and pop them into the nearest postbox, not forgetting to jot down the following address on the other side:

Salamander Comp
CCI
40 Bowling Green Lane
London
EC1R 0NE

Entries should reach us by no later than November 30th 1988.

Adventure

BY ANDY MOSS

COMMENT

What a busy month this has been for new adventure software! **CORRUPTION**, Mag Scrolls latest, finally arrived after many weeks of promises, and I have spent a ton of hours on that one, not to mention **BARDS TALE III** and **WASTELAND** via Interplay/Elec Arts (reviewed next month). If that were not enough, Martyn Westwood (remember his letter last month) has given me a copy of his adventure that everyone turned down for being written on a utility. **DEAD END** is the title, however the game is anything but. It is very very good (see my review), and copies can be bought direct from Martyn whose address is listed with the write up. Another home-made adventure came in from Nadeen Azam, and he gets the Moss treatment, so look out for that one. Also there is the latest in the **BARDS TALE SOLUTION**, some hefty hints and some hot news on Infocom, amongst other things.

On other matters, the PC(W) Show will soon be upon us, and although it is a while away yet, software houses are all putting the finishing touches to their plans, for either being there in full force, or being somewhere else in full force! From my round up of adventure houses it seems that Level 9, Mag Scrolls, Codemasters, Mandarin, Grand Slam, MicroProse/Origin and SSI/US Gold will all be there. Activision/Mediagenic, Electronic Arts and CRL will not, but will instead be ensconced in a swish hotel very nearby, showing off their latest wares to those of us who care to wander in, pleased to be away from the Earls Court crush. I, of course, will be there throughout, and will try to get an interview or two for you. But for now, it's on with *our* show . . .

INFOCOM GOES ON CASSETTE!

Yes, folks, the impossible has happened. No longer will disk drive owners be the envy of every cassette only adventure player, as Infocom have announced that **ZORK** will soon be available as a cassette release. This marks a radical step forward for the famous house, and praise must also go to Mediagenic for realising the possibility. Will the game be as big as the disk version? Will it be a multiple load cassette? These are questions that I cannot answer at the moment but as soon as news comes to me, you shall be told.

NEW INFOCOM TITLES FOR THE NEW YEAR

Three new Infocom games are being programmed even as we speak, and are due for release early '89. **SHOGUN** is the first, and is the adaptation of James Clavell's classic novel of the adventures of John Blackthorn. This sixteenth century buccaneer became the first non-Japanese Shogun in history, and the adventure will chronicle the many chapters of his very hazardous life. **JOURNEY** is the title of the second game, and takes us back into ZORK territory with an adventure full of Dwarves, Goblins, Orcs and Pixies. In fact, it is billed as a Tolkeinian epic, using many of the strange creatures that Tolkein dreamed up for Lord Of The Rings. It will be a role playing game (overtones of Beyond Zork here) and will contain, wait for it, **GRAPHICS!!**

BATTLE TECH is the third game and again takes a role playing scenario, but this time into the 31st century. You play the part of Jason Youngblood who has to defend his home planet from destruction. All these Infocom titles should be written on their new system. We all wait with bated breath.

INFOCOMIX DEAD DUCK

The planned release of Infocom's **INFOCOMIX** will now no longer happen. Activision have told me that they made their decision, "After careful consideration of the market we felt that Europe would not relate to them as well as America". In other words, no one would know what the hell was going on, as these comics are true Americana. Fair enough.

GRAFTGOLD FOR FIREBIRD

SOLDIER OF FORTUNE is the title of a new graphic adventure from Graftgold. You play either Tartarus or Teron who take up their shields to return the Zodiac Power Source to its rightful place and so rid the land of foul spirits unleashed by evil mage Krillys.

ENTER LANCELOT FOR LEVEL 9

Mandarin has announced more info on Level 9's new adventure Lancelot. The game closely follows Sir Thomas

cont. on next page

continued from page 85

Mallory's book on King Arthur published in 1485. Lancelot traces the legend from the founding of the Round Table through to the quest for the Holy Grail. Pete Austin, who is an authority on King Arthur, insists that this is Level 9's best game to date. "The legends of Arthur and his knights are known to all," he said, "but it is a sad fact that most modern interpretations owe nothing to the original tales." The package will contain a background story and a parchment map of Arthurian England.

POLICE QUEST OUT SOON

Police Quest, a 3D animated adventure based on an American police officer's world of crime, punishment, traffic tickets and drugs, is soon to be released from Sierra via Mediagenic. It features over 100 city streets and four highways, a realistic crime computer, full sentence input, and pop up text windows. Your ultimate role will be to go undercover and find the clues that will lead you to the "Deaths Angel" gang and bring them to justice. Sounds fun, more info soon.

INTERSTEL RELEASE EMPIRE

EMPIRE is to be Interstel's sequel to Star Fleet which drew small sales over here. It is a space simulation and is billed as the "Wargame of the Century", which is rather a modest approach. The objective is to annihilate the enemy in an unexplored world in space and attain total domination of the world. Interstel have experience in these things, as its designers have worked for NASA on projects such as Space Shuttle and Pioneer Venus. EA make all this technology available to us mere mortals this month.

ADVENTURE LETTERS

Dear Andy,
I have just completed MANIAC MANSION using Syd and Bernard. How much money did you bet for rescuing Sandy??? I'll only give the solution if I win a prize, how about it?
The Gerkin
Melbourne, Australia

Well, my little Gerkin, congratulations on completing MANSION (although I have only got your word for that!). You will find that in many cases in life people come to dislike two things: nobody likes losing money in bets (me included) and nobody likes a smart Alec!
P.S. Are you called Gerkin 'cos you are green and pickled?

THE BARDS TALE SOLUTION CONTINUED

Things are really beginning to hot up in Scara Brae, and last month we left our intrepid party descending the stairs into level three of the catacombs. What fate befell them? Read on . . .

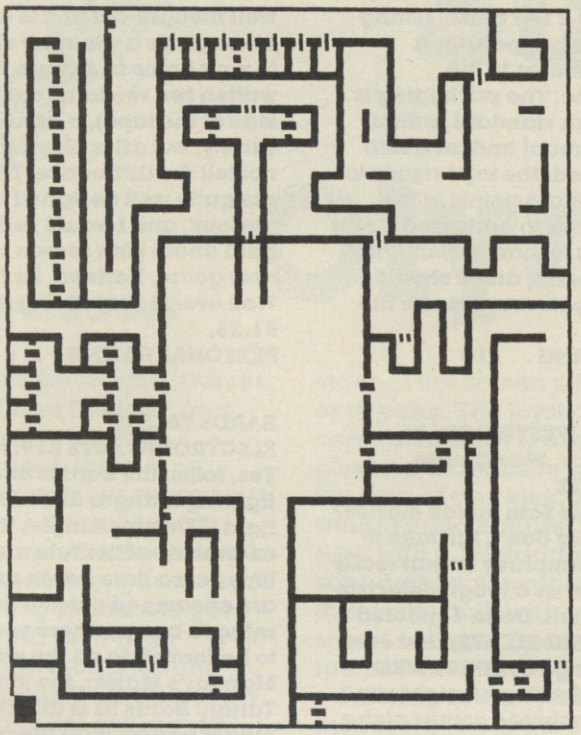
We have become accustomed to the legions of the undead, and now fighting them is becoming commonplace. While exploring the North Wall we stumbled by chance into the chamber of King Aildrek. Remember the warning of "the dead witch king". To our horror he lived, and quite a battle he gave us. In the end we assigned back to Hell, but found in his possession a bauble made in the likeness of an eye. This must be the eye we were told of upstairs on the previous level! It is of some importance that we know, so we keep it safely tucked away. Teleportation magic enabled us to leave the Witch King's locked chambers.

There are no lower levels here. We avoided a large dragon and discovered another cryptic message: "Seek the Mad God's stoney self in Harkyn's domain".

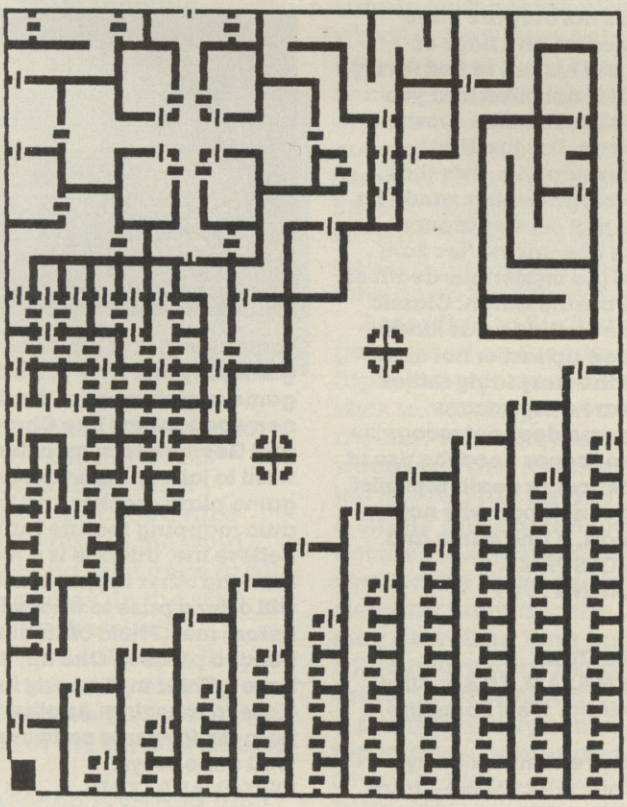
We will return to the town. Back in Scara Brae our deeds have become known to all, and many seek to join our party. We are cautious, however, and do not greatly increase our party size but for one Rogue, who can disarm traps and detect danger. One of us, though, will watch him at all times. Our next task will be the invasion of Harkyn's Castle in Northwest Scara Brae.

HARKYN'S CASTLE

At last we breached the defences and entered the castle from the courtyard



Harkyn's Castle



Catacombs, Level Three

on the east wall. We faced many fierce fighters but fortune smiled on us and we defeated them all. We skirt the lair of a Jabberwock, and moved in. We found a sword wrought of a crystal substance as near to perfection as we are ever likely to see. The Rogue's nose twitched when we discovered it! After a battle with Golems, we discovered a Throne. Quick as you like, Andreas, our Bard jumped up and sat himself down on it. Horrified, we waited for him to turn into a wart faced slimy creature or dissolve into a dirty pool of acid, but no. Instead a secret door opened to reveal a passageway. We enter and immediately do battle with six men in green robes. We don these robes and find that all the guards pass us by, for they too are dressed in green robes identical to ours! The smirk on the face of Andreas is too much for us to bear.

Next we find a strange illusion, the stairs in the northern section of the west wall appear to lead down, but actually ascend. We will follow them pausing only to remove our cumbersome robes . . . ***TO BE CONTINUED***

ADVENTURE HINTS

PLANETFALL

You cannot prevent the Feinstein from blowing up, best thing is to try and survive the shipwreck.

To stop getting killed during the pod trip get in the safety web and do not stand until you land.

Can't open the padlock? You need a key, it is in the crevice in the Admin Corridor South. You cannot reach it with your hands, so get the metal bar from the Tool Room, it is a magnet, so hold it over the key and you will get it.

At Station 384 shoot the speck. To get past the giant Microbe, shoot the laser to get it warm by hitting the microbe, when it is warm enough, throw it over the edge into the void, the microbe will leap after it.

SORCERER OF CALYMORGUE CASTLE

To get the towel, enter moat, hold breath, swim down (twice), get towel, swim east, up. To open the crate, throw crate from loft, go crate, go hole, get metal, go hole, get off crate. The metal is used to open the tin can. To release the chandelier, go to the ballroom and cast the Unravel spell, then leave immediately. Wait until you hear the chandelier crash to the ground, then go in. The broken glass can be made into a mirror by casting the Wicked Queen Spell.

cont. on next page

HITCHHIKERS GUIDE (START)
Get up, turn on light, get gown, wear it, open pocket, take all, get all, south, get junk, south, lie down, wait until Ford goes toward the country lane, then south, west, drink beer, buy sandwich, drink beer, east, give sandwich to dog, north, wait, wait, get device, push green button.

ADVENTURE REVIEWS

CORRUPTION
MAGNETIC SCROLLS/RAINBIRD
£14.99
So, you have become a successful City slicker, and donned the mantle of respectability by accepting a partnership in a seemingly go ahead brokerage firm. What more could you want, a new BMW car, your own office with vistas looking across the London skyline, and all the support you need from your fellow partners. Or is there something sinister about all this? What starts as your first day at the new job soon turns into a veritable nightmare, as suddenly you are plunged into a world where your experience is rather limited. Car bombs, Fraud Squad, insider dealing, crooked doctors and an irate drugs baron.

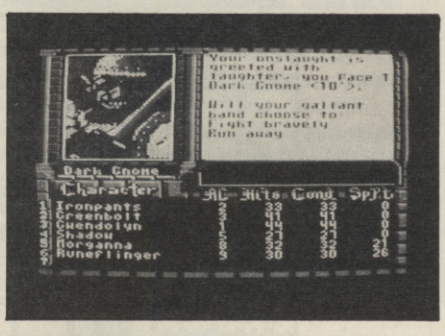
This then is the basis for Magnetic Scrolls latest, and is a complete departure from anything they have done before. I have read some rather nasty press on the ST version of the game. Some reviewers found it poor in storyline or just too disjointed to enjoy. What most of them failed to realise, is that not content to sit on their success, Scrolls have made a firm decision to try and capture a much wider audience, and that means dealing with a variety of subjects in different ways. If I were a money dealer in the City, I would grab the chance to play this adventure and escape from the real world for a while. As it is, I found the whole thing quite enjoyable, and I am not a City person.

What about the game itself? Well, to start with, there are a lot fewer locations in the game, and things happen according to the time of day (or night) similar to Infocom's WITNESS or SUSPECT mystery series. Most of your clues are garnered from other characters whom you engage in conversation. This process has been dramatically simplified to ASK so and so ABOUT something or TELL so and so ABOUT so and so. The character's responses will give you more info to feed other characters with. Be very careful to give the right people your info as telling the wrong people could be very bad for your health. CORRUPTION will involve you rebooting quite a few times, noting the times things happen, then planning your moves to the appropriate time. The packaging is of the usual high standard, with a Filofax style manual and an audio cassette included (the tape needs to be played at certain points in the game). Full marks to Anita and Co for having the guts to market something quite a bit different, and it should herald even greater success for the team.
PERSONAL RATING . . . 10

DEAD END
£2.99 ***MARTYN WESTWOOD, 26 Goathland Place, Woodhouse, Sheffield S13 7TE***
Remember those Sam Spade movies? No, you probably don't, but take it from me, old Humphrey Bogart really was just the part as a tough detective in tough New York. Delta 4 spoofed him up in THE BIG SLEAZE, and even Interplay had a go in BORROWED TIME. Done to death you might say, until Martyn Westwood comes along with DEAD END which is a superb effort written on an adventure writing utility. Quite why certain software houses have rejected this game is beyond me, as not only are there some great puzzles and bags of atmosphere, but his use of text is very memorable. It is not often that you can enthuse about a home grown game in this way. It is just that Martyn has developed a style that certain professional writers would be proud of. The plot centres around your efforts as ace private 'tec Sam Miller to solve the mysterious death of a well known businessman. Classic lines like "The east side was kinda rough, you grew up fast or not at all" abound, and the story fairly rattles along. There are a few moans though, the game does not recognise GET and some scenes need the use of multiple sentences or death prevails! Also, instead of notepad why not PAD? That apart, a fine game and worthy of a MOSS PRIZE.
PERSONAL RATING . . . 9

ESCAPE TO ACTIUM
£2.99 ***NADEEN AZAM, 19 Arncliffe Terrace, Bradford, West Yorkshire BD7 2DG***
This is a perfect example of why software houses reject home-grown adventures using GAC or similar. Unlike Martyn's work, Escape to Actium is a game littered with bad grammar and poor spelling which is criminal when sending in copies for review. Also as the game is set in Ancient Rome, it is highly unlikely that you would eat Coco Pops for food! On the plus side, the game is well thought-out and is about your attempts as a runaway slave to return to your home in Actium. Nadeem has written two versions (one on either side of the tape), a hard or easy variety, but after playing both I could not tell the difference. The puzzles are quite well designed if a little obvious, and I would seriously think hard about your screen colours in the next game, Nadeen. As for the price? Well over the top. Bring it down to £1.25.
PERSONAL RATING . . . 4

BARDS TALE III
ELECTRONIC ARTS £19.99
Yes, folks, the Bard is back! Hot from fighting Mangar and his cronies in Bard II Destiny Knight, the Bard has an even deadlier fate awaiting. This time Scara Brae lies in ruins, and you are encamped outside the city in the refugee camp, where your party has to be formed to rid the world of Mangar's Master, the Mad God Tarjan! Bards III is an altogether bigger project than the others, with a whole world to explore, in fact seven worlds or dimensions will be needed to travel through to win, and there are



some significant changes in gameplay too. Now you can save the game anywhere you like. There are new spellcasters like Chronomancers and Geomancers; monsters may even want to join up with your party. The game plays quicker and there is an auto mapping feature built in. Believe me, this one is a lot tougher than the other two, so much so, that I will offer a prize to whoever finishes it before me. (Photo of final screen needed please.) One tip, you need to have a Thief in the party to get even close to finishing. Another winner from my favourite software house. Well done, boys.
PERSONAL RATING . . . 10

THAT'S IT FOR THIS MONTH. LOOK OUT FOR WASTELAND NEXT ISSUE AND ALL THAT'S BEST IN ADVENTURE!!

C64

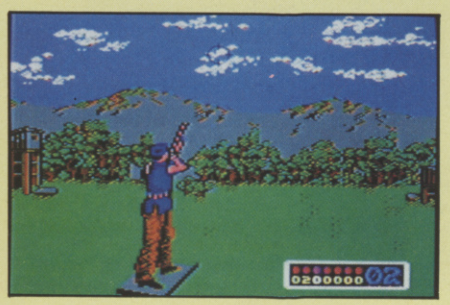
DODGY

Summer Olympiad

Tynesoft

Although the recent "Games: The Winter Edition" from Epyx was a bit of a disappointment, there is no doubt that Epyx reign supreme in the field of multi-event sport games. Anyone who dares to take them on at their own game needs an outstanding product to get anywhere near their high standards. Tynesoft's second attempt to break their monopoly has, as far as I am concerned, failed.

A relatively small number of events go to make up Summer Olympiad: skeet shooting, fencing, triple jump, diving and hurdles. Any number from one to



six players can compete over these events, each choosing to represent the country of his choice. Moving the cursor through the flags cues a nice effect as they flap in the wind, but they bear no relevance at all during the games. In the style introduced by Gremlin's Alternative World Games, the events are chosen by turning on a number of TVs which repeat short animations of the corresponding sports.

Skeet shooting is viewed from just behind the competitor who is animated from the waist up, which makes him look as if he has wooden legs. Skeets (or clay pigeons) are launched from the sides of the screen either singly or in pairs. The joystick-controlled sight is used to aim but gives an unrealistic feel due to the lack of any kick, wobble or weight effects. Quiet pops signify a hit with a 1% variation of the sound when you miss. I found this pretty dull, with neither the speed of Hyper Sports nor the realism of Summer Games.

Fencing is a very basic interpretation of the sport. The view is for fencing from above and to one side so as to give a 3D slant to the graphics. Controls are simple giving three moves with which to beat your opponent. Even if two or more players are competing in the game, rounds are always played against a computer-controlled opponent (there is no two player option). Sketchy graphics and details such as the swords sometimes going right through the players tone down the interest factor.

According to the instructions, to gain speed on the run-up to the triple jump you need to move the stick left and right in a steady rhythm. What they mean is a waggle as fast as possible to get the speedo full up (not difficult). A single press of the button decides the take-off angle before you see the large character hop step and jump into the sandpit. It may as well be long jump, and without any sound effects is rather unconvincing.

Diving usually comes out on top in these games and Summer Olympiad is no exception. Different joystick positions control the diver's flips and rolls as he flies towards the pool. Some of these are very well animated indeed, though flipping from a forward to a backward somersault in mid-air would seem a little on the impossible side. A glass side to the pool is a delightful touch which shows the diver entering the water and swimming back up again.

Finally we have the hurdles, another event that has been done so many times before. This takes the form of a basic joystick waggle, pressing the button to clear the hurdles. Again a two player option is nowhere to be found.

None of these events has anything new to offer the armchair sportsman. Summer Games I and II, Go For The Gold and Hypersports are just three alternatives that are either cheaper or available on compilations which give at least as much entertainment. Sound effects are almost non-existent and the music irritates. There is an infuriating feature that appears after every event: "load next event" and "retry this event" flash on alternately for about a second each. If you press the button a fraction of a second too late you are forced to play the whole event all over again! One final point I should mention is that we could not get the game to load on a 128D (even with an external disk drive) so 128 users should make sure it loads on their system before parting with the cash. As "stick wagglers" go, it is neat enough but perhaps by today's demanding standards it is vastly overpriced for its content.

T.H.

Graphics: 64%
Sound: 18%
Playability: 40%
Overall: 39%
Rating: DODGY
Price: £9.99 (c)
£14.95 (d)

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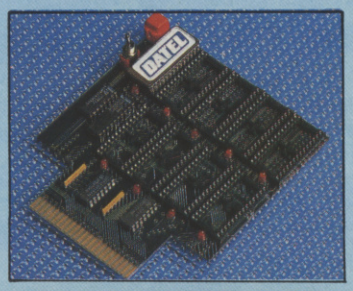

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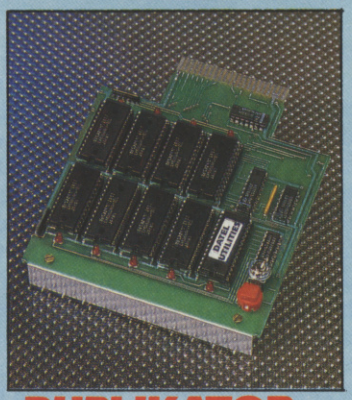

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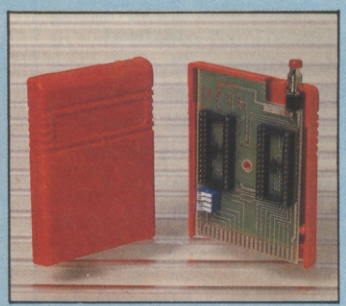

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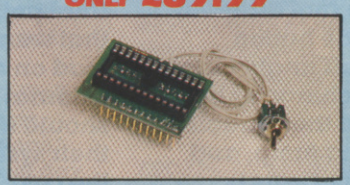

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- Cable has throughbus extension for other add ons.

- Whether to choose FastHack'em or Burst Nibbler? Fast Hack'Em is unbeatable value as an "all-rounder" – with nibblers, 1 or 2 drive copy, format, file copy, 1571 copy etc. etc., so if you have a more general requirement perhaps FastHack'Em is for you. Burst Nibbler is a pure nibbler second to none, for the reasons stated. So if it's just making backups you are interested in, there is no other product to beat it.

ONLY £24.99 COMPLETE
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- Remember – this disk is by no means a must for Burst Nibbler owners since it already copes with over 90% of Software. But for those who want everything this is it. Also for none Burst Nibbler owners you get a "Super Serial Nibbler" which together with the parameters is a powerful utility.

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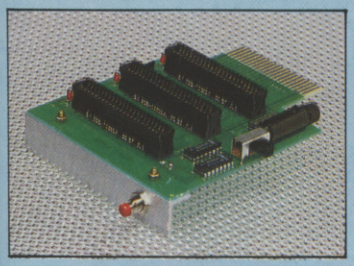

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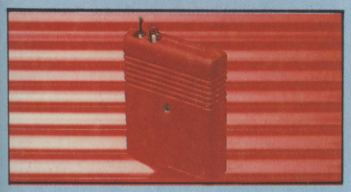

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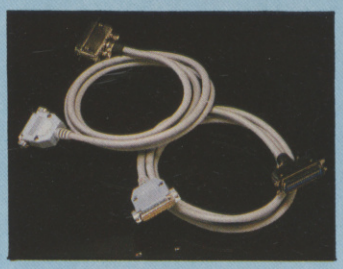

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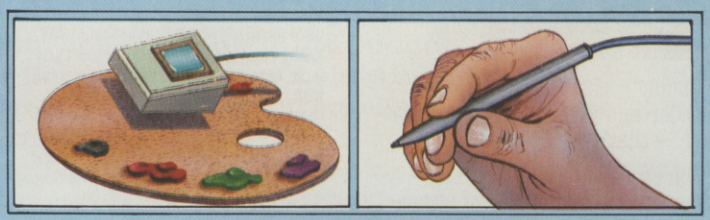

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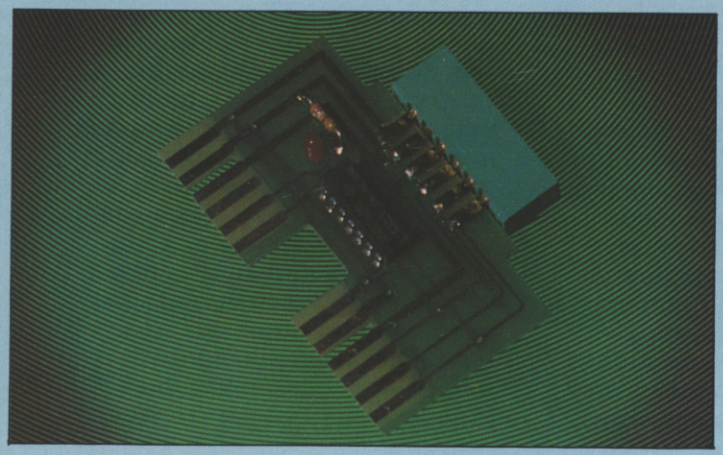

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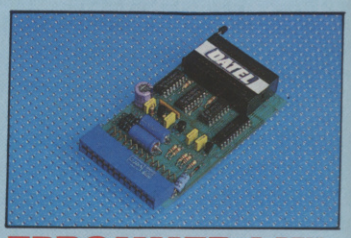

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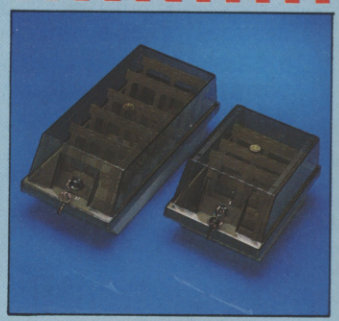

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Charts

Chart Chatter

Well, something did knock it off its spot! Ocean's Target Renegade finally took the fall ... and we have a new Top Dog lording it over the other 64 games this month. The all-time go-on-for-ever seller Football Manager has had a son and FTII has scored in its first month a hat trick of top spots – it's also heading the Speccy and Amstrad leagues too. *And* it is in second place on the Amiga. No mean feet! (Sorry, couldn't resist that one!). We also have a new Number Two with US Gold's Roadblaster, which has made it high in spite of the Roadblaster clones – a raft of them are flooding the market. But Target Renegade is still there at three and we have a new Number Four, a real breaker for US Gold The Great Gianna Sisters – previously very well-received on the Amiga. Another that has hit the Charts for the first time is Incentive's Darkside, the quality follow-up for Driller that also uses the interesting Freescape system. Domark's disappointing Empire Strikes Back struggles in at Seven but apart from these charges, it's clearly not the most exciting month of the year with most of the software houses holding back their grabworthy goodies for the PC Show in the UK, which will be used as their shop window for their Xmas big shots release.

Of course that doesn't apply to the Budgets. They come pouring out in never ending flood! Elite/Encore's oldie but goodie Airwolf takes over from Ace as the leader of the pack with another of the Simulator school, Firebird's Stunt Bike bouncing in at Three.

For the Amiga E.A.'s classy Interceptor holds onto the prize position though there might be challenger that hasn't even entered yet this month – Rainbird's mighty Starglider II which is being whispered as the likely top Amiga seller of the year. Two other newcomers to the Fantastic Five are another Firebird entry, the Oskar-winning, on the 64, Sentinel and Elite's popular Ikari Warriors. Watch out for yet another Rainbird bubbler Carrier Command.

GAME TITLE	COMPANY	PRICE	RATING
C64			
1 Football Manager II	Addictive	£9.99	T.B.A.
2 Roadblasters	US Gold	£9.99	Crisp
3 Target Renegade	Ocean	£9.95	Mega
4 Great Gianna Sisters	US Gold	£9.99	Mega*
5 Impossible Mission II	Epyx	£9.99	Crisp
6 Pacland	Grandslam	£9.95	Mega
7 Empire Strikes Back	Domark	£9.95	Iffy*
8 Darkside	Incentive	£9.95	Crisp*
9 Bionic Commando	GO!	£9.95	Mega
10 I.O.	Firebird	£9.95	Mega
Budgets			
1 Airwolf	Encore		
2 Ace	Cascade		
3 Stunt Bike Simulator	Firebird*		
4 Steve Davis Snooker	CDS		
5 Bruce Lee	Americana*		
Amiga			
1 Interceptor	Electronic Arts	£24.95	
2 Football Manager II	Addictive	£19.95	
3 Aaargh!	Melbourne House	£19.99	
4 Ikari Warriors	Elite	£19.95*	
5 Sentinel	Firebird	£19.95*	

★ NEW ENTRY

WORLD CLASS LEADERBOARD

Famous Courses of the World – Vol 2

First there was Leaderboard. Then there was "World Class Leaderboard". Now we have "World Class Leaderboard Vol 2". Access Software certainly know when they are onto a good thing.

Whether you regard this latest offering as an update on "Leaderboard" or as a new game in its own right (I missed out on "World Class Vol 1"), there is only one conclusion. It's good, so the formula works – even for a cynical old reviewer.

"The horizontal lines correspond to the distance the ball would travel on a flat green"

If you still play and enjoy "Leaderboard", leave "World Class Vol 2" well alone. Don't even watch someone else playing it, because you'll want to go out and spend your money on it. If, by some chance, you don't have a Golf Simulator amongst your software collection and fancy yourself as an armchair Nick Faldo, then organise yourself a test drive. And a test chip and a test putt. I don't think you will find a better example of the genre.

Playing any version of "Leaderboard" comprises the following steps:

1. Select your club. You can choose from three woods and nine irons (ten if you include the pitching wedge). The distance to the flag is displayed on the screen and the game instructions include a chart of how far each club will propel the ball. Clubs are selected by pushing the joystick forward or pulling it back, the currently selected club being displayed on the screen.

2. Aim your shot. The screen shows a little man lining up to hit a golf ball, a view of the hole being played and a little cursor just in front of the player. If you can see the flag and expect to hit the ball straight, line up the cursor between the ball and flag by moving the joystick left or right and proceed to

3. Hit the ball. Not surprisingly – and most realistically – this is the key to the whole game. And it's not frightfully easy. On the screen is a "Power Snap Indicator", a vertical rectangle with the top half split lengthways and a line halfway up the bottom half. The top left quarter is the power indicator. Press the joystick button and a yellow bar grows (fairly quickly) upwards from the mid-point. Release the button when you think there's sufficient power for the shot you want to play. For full power, you have to release at exactly the moment the yellow bar gets to the top. A yellow bar then grows (very quickly) downwards through the top right quarter (the "downswing") and into the bottom half (the "snap"). For a perfect, straight shot you must push the button again as the bar reaches the little line halfway down the "snap" section. Snap too quickly and you hook the ball (it curves off to the left). Leave it too late and you slice it (off it goes to the right). Of course, your ball can veer off even if you've judged the snap perfectly – you have to allow for the wind as well! The strength and direction are indicate on screen.

"An overhead view of the hole can be obtained – useful on the many doglegs where the flag isn't visible from the tee"

While all this is going on, the little figure on the screen performs a passably realistic golf swing to the accompaniment of passably realistic sound effects and the ball sets off on its travels. The view then changes to your new lie (unless you've hit it into a lake or river, in which case your score goes up by one but you play again from the same spot).

Once on the green, the hitting technique changes. A different power indicator appears – a vertical bar with nine lines across it. When the button is pushed, a yellow bar grows downwards (reasonably slowly) until you release. The horizontal lines correspond to the distance the ball would travel on a flat green. The actual inclination of the green is indicated (amount and direction of slope) on the screen. This has to be allowed for, as the ball will curve quite authentically when it is hit. If you get it right, there's a satisfying little rattle as the ball vanishes into the hole.

"World Class Leaderboard Vol 2" offers three levels of play. "Professional" level is as described with the added problem that you have to guess the power of your putts due to the yellow bar growing invisibly after the first two marks. At "Amateur" level, the effect of the wind is discounted and at "Kids" level there i no hook or slice to contend with. One to four players can participate and there are four courses to choose from.

I tested the disk version of the game, which loads each hole separately. The wait is fairly short and the time taken to change the viewpoint between shots is considerably shorter than in the original.

There are a number of features available to aid your game, including a practice range and putting green. An overhead view of the hole can be obtained – useful on the many doglegs where the flag isn't visible from the tee and there is a facility to play a low shot (I used this quite a lot when I found myself among the trees).

Although the gameplay is very similar to the original version, authenticity is enhanced by losing distance on shots played from the rough or from sandtraps. Perhaps the next version will be realistic enough to let you cheat!

T.L.

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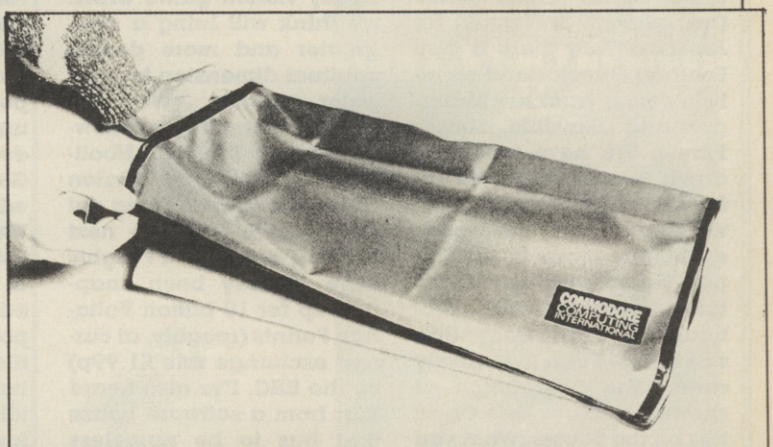

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This page for computers only. No humans allo

Super Felix

While everyone knows that the world's favourite sports are tiddlywinks and pelota, which both have the best simulations yet on the Dragon and Oric computers, there appears to be a hot fashion for a strange pastime called football. You won't, of course, have heard of this minority sport only played by 10 billion savages every Monday or is it Saturday? morning, especially in the jungles of North Borneo and Hackney Marshes.

However, software houses, ever sharply up to date, have been following the trend closely for the last thirty years or so and have all decided to jump in with both feet where angels fear to tread and deliver to your very doorstep football (it's called that because many goals are scored with the head). You won't have heard either of computer games like Football Manager I, which was written in the reign of Queen Victoria and stayed in Charts from the Indian Mutiny up to the First World War. FMII was brought out recently and we predict will be around till about the 22nd century, possibly still at Number 1. There is also Peter Beardsley's International Football – Lord Peter Beardsley was Britain's Ambassador to the Court of Louis XIX and it was there his brother Aubrey Beardsley learned how to draw artistic pictures on lavatory walls from his close friend Oscar Wilde (he played in goal for Arsenal). Now there is also Football Director and shortly to come, Tracksuit Manager and Sensible Soccer Player. We have made in-depth investigations to all the most successful software houses in the world, especially those in the Upper Volta, winners of the last Football (it's pronounced Phut Boll) Universe Cup. I can exclusively reveal the next batch of surefire Number One Chart hits on the Soccer (what you do to any girl who tries to play) scene. From Volta Gold there is to come Fourth Division Goalie. From Voltocean, Sunday Football Referee, from VoltElite Soccer Bombjacker, from Microvolta Silent Football, from Volta MycroNett MultiPlayerr Football, from Voltepyx School Football Games, from VoltaFribird, Football Linesman's Wife Keep Fit Sessions, from Volta-Cod masters, Football Linesman's Wife Keep Fit Sessions Stimulator. Then from the nearby Lower Volta, Buckingham Palace are releasing a 16Bit version (in fact it measures 38D Cup Bits) Maria Whittattackerker Plays Bouncing Footballs and Voltactivision are promising the C16 version of Football Aftermath, though some say that it is so violent that it will never be allowed out of Africa. Talking of violence, Voltatronic are bringing out their much publicised (you read the Your Boring Volta Commodore article on it, didn't you? It was written by Paul Kavangh direct from Chicago) Football Hooligan II. This has been described by their MD Needham N. Bolls as "The football game that the whole universe has been desperately waiting for. We know that people all over the globe will be hanging themselves because they couldn't wait any longer for FHII. We are sure it's going to be especially popular in the UK where they really understand and feel very sentimental over this kind of totally violent game which we think will bring a new, greater and more deeply spiritual dimension to computer games. We are already planning a follow-up called Football Hooligan – The Heysel Version which we hope to bring out to co-incide with the next football season." TV rights have already been snapped up for 10 billion Voltarian Forints (roughly, at current exchange rate £1.99p) by the BBC. I've also heard that from a software house that has to be nameless called Jrihowelssi, there is to be a Dungeons and Dragons style football role playing game called "I Was a Footballer's Dressing Room Cleaner"; with a special adult version called "Jockstrap Manager" for which Levolta Ninety-Nine are producing a spoof called "These Games are All a Load of Balls". Watch out they'll all be shortly coming your way. And if I were you I'd duck and run in the opposite direction.

PRESSING ENIGMAS

As a pokerfaced pussycat, I like the word enigmatic. For those of you who do not have a dictionary handy and did not do a Doctor of Philosophy degree in the English language like Captain Milesand Miles, that means a mysterious kind of magazine that only appears once in English and then is only obtainable in Italian. It should be concerned with the Amiga and should get lots of subscribers to pay for 400 issues in advance and then disappear. Now you may think, as my psychiatrist would say, that I am totally out to lunch with this definition but I assure you that it is there in black and white in the Oxford or Cambridge Dictionary – I can't remember which. Now there has been a development since this legendary publication appeared which I can report confidentially between just you and me – and I don't want you to tell another soul. (Certainly not that idiot who is trying to read this over my shoulder.) That is that the erstwhile editor of this mythical mag, one JulianRosenphone, reported now to be living under an assumed name is definitely not a certain Greg Ingham, erstwhile editor of Computer Trade Weekly, who was reported to be living under the name of Francis Jago, erstwhile editor of PCW, who was reported to be living under the assumed name of Julian Rignall, erstwhile editor of SSappp, that was before he –doesn't matter which one – was managing editor of Micronet which is now called Telemap, who used to go under the name of Tim Metcalfe when Eugen Lacey was the editor of Commodore User before he – it doesn't matter which one this time either – became the editor of CVG which as you probably already know will shortly be changing its name to the Number One with Gary Penn who at one time was thought to use the name of Graham Kidd closely involved. You've got to admit that such enigmatic goings-on make CCI look pretty boring. We've only had four editors in ten years of existence and one of them, Peter Gerrard, sometimes known as Mike, was editor at least twice. Other computer mags stay the same and keep on changing editors (and I think it's time we changed this one! what about Antonia Hetherington? She has written for every known magazine, including the Upper Volta Microsavage Gazette and the Lower Voltage Football Dressing Room Cleaners' Times). Anyway, back to Greg Ingham (remember him?), well I asked him what he was going to do now that he'd given up using assumed names (you do remember them all don't you or do you want me to repeat them?). It seems that he has turned over a new leaf and gone 'Holy' from reading a bible in Spanish in a hotel loo in Mexico. He came to the Chapter John 23, "Montezuma's Revenge" and had a revelation. The Amiga was to save this sinful world! No more gossipy errors about Alan Sugar. No more lawsuits with US Gold, all those sensuous sinful days were behind him. So dear reader, to you who don't care a damn, I can exclusively reveal that Father Greg Ingham is now to publish a religious monthly called Saint Amiga. This publication will in detail describe all the miracles that this sacred computer accomplishes. "That day in Mexico, I prayed to St Christopher Anderson" Father Ingham told me.

Sir Graham de Ball of Loves his Mum. Dad more than S. Felix. Boo hoo!

The Games Prod. Kate Makes Make Storyline when doing.

...lved! (Except for geniuses like you!)

Sir Greyham de Bell d'Oc loves his Mum + Dad more than S. Felix. Boo hoo!

The games prof. Kate plays make Storglider seem boring.

"And my prayer was answered. I heard a voice say 'Gregory, the last English Pope bore your name. It is you who shall lead us into the Future!' Cleanse thyself, come to Bath! No more of the steam fleshpots of Stevenage, I vowed. I knew from now on I could only serve St Amiga." Those of us who have known Father Gregory have always recognised his spiritual quality. Not for nothing was he called by his 23 assistants "The Mother Teresa of the M1". All we wait for now with bated breath is the martyrdom that is sure to come. Then as St Gregory of Amiga Computerdom this reverend figure will be able to intercede or interface for us with the Great Industry Leader in the Sky. As the Future St Amiga said with touching simplicity, "After the PC Show, you won't see my tail for dust. I'm getting out while the going is good. So long, suckers!" Let us all pray that there will be more miracles than enigmas for our beloved Father Gregorian. (Did you ever hear him chant? He makes Michael Jackson sound like Alan Sugar – or vice versa.)

We 'ave 'ad several million demandes, mostely from la France, for a vision of the ployed, not as eet says at the commencement of zee lovliness of Michel Swinglehurts (founder of the Swignle Songers) who it is rumoured 'as joined the poisonal of zis wonnderfool pewblication Say Say Aye.

Super Felix COmpetTionN

This is called the "Inever make mistooks – So why ShOuLd Annyone Elsy?" Competition. What you hae to do is tell us what this advertisement is for and which magazine it appeared in. The answers must reach me by Augiust the 32nd 1952 and the first person who gives me the correct answers (and tells me why Llamasoft's adertsiement appeared back to front and possibly upside down and inside out in Popular Cpmputing Weakly) will win a copy of the magazine July27th in which it was. If they are lucky they might also get, if they are over 21, a recording of what Jeff Minter said when he saw 'is advertisement produced in such a creative way.

Titus/ Entertainment International Price: £ .99

FIRE WHO FORGETS

The second part of our "I am amsolutely perfeck" Kompetition is to have you guess which is the cheapest 16Bit game around. This one makes Mastertronic's 64 games at £1.99 look expensive. We know this game only costs 99p because the biggest selling computer magazine in the history of the universe, Commodore Abuser, put it in in a recent edition. All you have to do is tell us whether 99p is the right amount to ay for a game that by sheer coincidence bears an amazing resemblance to Roadblasters (just ask Tim Chaney if he can see any difference) or it is the correct salary for an Editor of a magazine that puts in prices like that. Personally I think that magazines shouldn't put prices at all. They should just print question marks as CCI did last month for one game. This was a brilliant idea of Captain Keith Miles and Lance Corporal Rico ('I'm really cool') Gusman because they thought it would be more mysterious that way. At least, I think that's the reason.

Bien, mon chère lecteur, 'ere eet his. Aye can tell you that Michel 'as been emmag in zee advert equipe but really as a bomb disposal experrt. (Nous at CCI Towers live in fear of being blown up not by zee IRA but by desperate ozzer mags and sometimes even furreeous reedairs like you 'oo 'ave no taste and don't like me!!). So Michel 'oo received ees training in TNT is 'ere to protect us.'Ees is veree proud of zis recent computer-aided portrait. (Photo: Anthony Armstring-Joness.) Don't you zink Michel is absolument gorgeous? For some strange reason, ee loves to be called "Dumpy-Wumpy" and often comes to zee CCI Towers wearing girls' clothes. In Parees we say Chucun a son goût. 'Ere Notre Sacré Editeur winks veree Englishly "Eef zat's what turns old Michel on"

Are you Donuts?

Burp!
Everybody loves "doughnuts"
Doughnut cramming service –
He! He! See you round, like do-nuts!!

What does this rubbish mean? A loony has sent this to me. Why? What the donut is going on? Are you all going bonkers out there? S. Felix

Dear Jeff,
THIS WAS SUPPOSED TO BE A ~~1/4~~ FULL PAGE ~~AD~~ PIC BUT LONDON SCANNING HAVE COURT ~~TO~~ THE POP. COM. VIRUS!

G.M. IS COMING!!!

WIN A LABYRINTHE ADVENTURE

There is a great new magazine coming called GM. It's about all kinds of roleplaying and it's produced by the editorial team that made C&VG the UK's top computer games mag. So we thought we'd give you a taste of what GM style roleplaying is all about in a GM comp.

Ever wanted to enter into deadly combat with zombies, trolls and goblins? Ever wished for the chance to become your favourite sword and sorcery superhero? Well, GM – this brand new independent fantasy roleplaying magazine – can make your dreams come true. GM is giving us five Labyrinthe adventures, five special Labyrinthe swords, plus five free Labyrinthe start-up packs to present to CCI readers.

All you have to do to win the adventure of your dreams is answer the following questions.

1 Name the creator of *Dungeons and Dragons*.

2 Name the author of The Hobbit.

3 Name the barbarian hero created by American writer Robert E. Howard.

Once you've worked out the answers send them on a postcard to:

LABYRINTHE COMPETITION
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EC1R 0NE

Closing date for this competition is November 30th and the Editors of GM and CCI's decision is definitely final!

C64

CRISP

SALAMANDER

Imagine

There is something about horizontal scrolling shoot 'em ups that software developers find simply irresistible. Ever since Nemesis and Delta hit the market there has been a constant supply of full priced and budget zappers, all looking and playing alike. The trouble is, just how many of these can we take? Imagine obviously think there is room for at least one more and have released the 64 version of the popular coin-op Salamander.

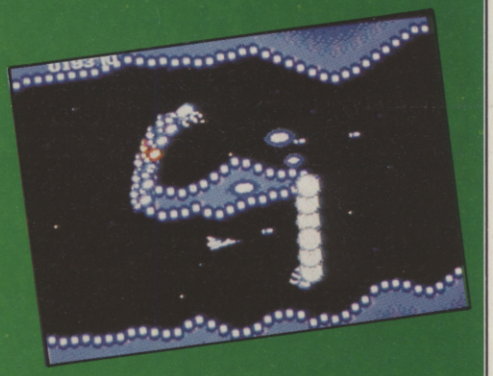
Once the first level has loaded (yes, it is a multi-load), the player is presented with a familiar wave of snaking aliens. Destroy a wave and you will be rewarded with a bonus pod giving ripple lasers, three-way firing or a ball that follows you around acting as another laser. It is quite easy to get all these add-ons at the start; a big help for the opening stages.

Scrolling through the first level you first do battle against worms which extend from the red fleshy walls. Small blobs multiply from the edges of the screen leaving only a small gap for the ship to negotiate. By the time the flesh turns to blue rock you should have three globes firing three-way shots that hug the cave walls, making alien zapping pretty easy for a while. Then come the giant probing claws followed by regenerating slime and an asteroid belt. Beyond all that is a large brain-like alien guarding the next level.

Salamander's graphics were designed by acclaimed Bob Stevenson and are pretty good in general. These are only slightly spoilt in places where character sprites have had to be used due to the squillions of other sprites already on-screen. Most of the game is played at a fair old speed, the exceptions being particularly full screns such as the end of the first level.

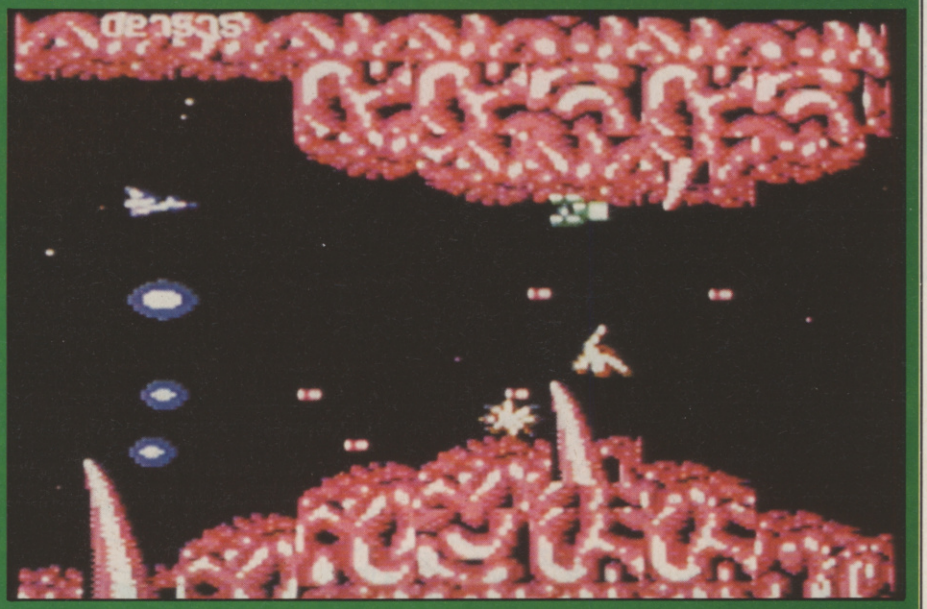
To break up the horizontal sections, vertical stages have been included which feel more like interludes than new levels, perhaps due to their featureless backgrounds. Music is capable of enhancing a game's atmosphere no-end, take Rob Hubbard's piece in Delta for example. Unfortunately Salamander's soundtrack is a rather whiney tune on equal terms with the simple effects.

"Then come the giant probing claws followed by regenerating slime and an asteroid belt. Beyond all that is a large brain-like alien guarding the next level"



Salamander may not be the most original concept the computer games world has seen, nevertheless it has a terrific amount going for it. It is fast, very demanding in a highly entertaining way and best of all really amazing fun to play. I think you'll enjoy its power of addiction for quite a time. Highly recommended.

B.V.



This month Salamander has a strong rival threatening to take its audience, US Gold's Katakis. Given the choice I would go for Katakis but fans of the coin-op may well feel differently. You won't know either way unless you try them, so see for yourself and take your pick.

Graphics 82%
Sound: 58%
Playability 76%
Overall: 75%
Rating: CRISP
Price: £9.95 (c)
£12.95 (d)

COMMODORE

COMPUTING INTERNATIONAL

OCTOBER 1988

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MOUSE
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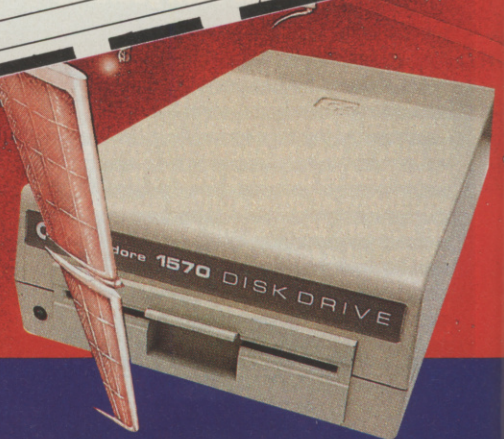
IMAGE WORK'S FERNANDEZ MUST DIE!



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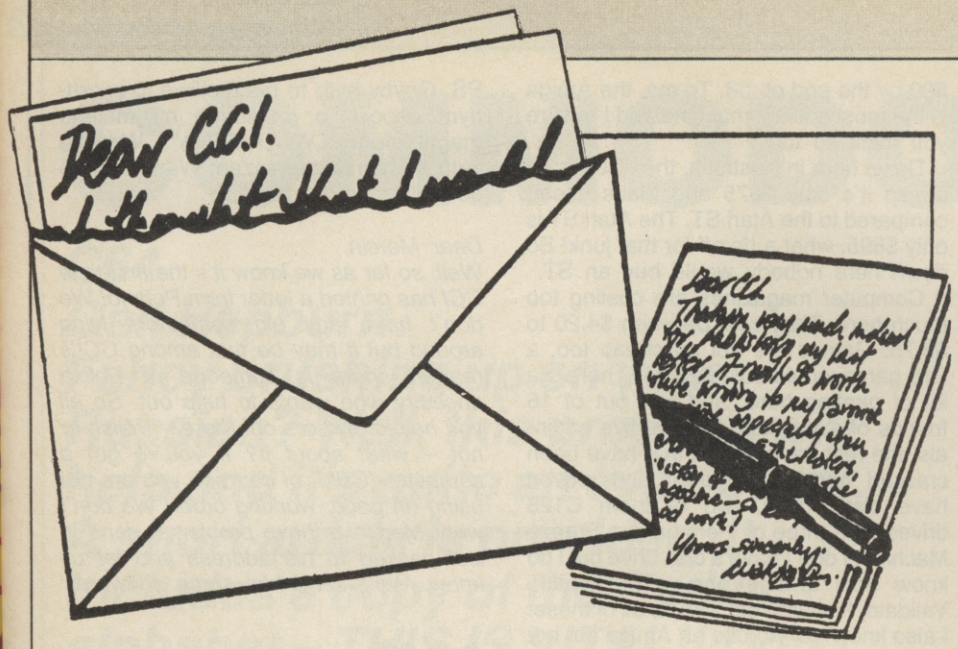


Dear CCI,
I think I should point out that the answers to the Geos competition in Volume 7 No. 1 of CCI were imbedded in the Geos Reassessed feature, so to speak. I, myself took advantage of this and found all but one of the answers, and I answered that with my common sense. Thankyou for such a fabulous mag, even though it's the first one I've read. You see I usually read 'Your Commodore', but your magazine's much better.
Yours humbly,
Mark Reynolds, Crewe

Dear Mark
Of course, the answers were to be found in the article, that was the whole point! If you read the article you could enter the comp. We don't really think you are thick. You've just been reading YC too long. Good thing you saw the error of your ways. In no time you'll be thinking like a CCI reader (and are they brilliant!).

Dear CCI,
In June's issue of CCI (page 6) in the news pages, there was a small issue about a budget game that had just been released (''Steve Davis Snooker'') by the company called 'Blue Ribbon'.

I have been looking for this game since this issue of CCI but to date I have only seen the spectrum version.

I wonder if you know of any stockist who has a C64 version of the game on disk as I would really like to buy a copy of it.

I enclose a stamped addressed envelope for your use. I hope you can help me.

I look forward to hearing from you.
Yours faithfully,
S.A. Brown (Miss), Kent

Dear Miss S.A. Brown
The company the Blue Ribbon label belongs to is CBS. Their telephone number is 0302 21134. There is a certain Mr David Carlos there who used to be known as 'Old White Shoes', mention his nickname and he will be delighted!

Dear CCI
I have next to me my James Bond scrapbook, now I am writing to you because I am a fan of Bond, and one of your issues is a competition, the competition was to win tickets to see 'A View To A Kill' and to win an 'A View To A Kill' T-shirt, and a poster. This issue is about 3 years old, if you still have an 'A View To A Kill' T-shirt, and a poster could you send one to me (if you can I'm a large). If you can, many thanks.
Philip Stevenson, Reading

Dear Philip
(Or should we call you Rip Van Winkle?) Three years? That's a lifetime in computer games! Still we've passed your letter onto Domark and maybe they still have the 007 things you want around. Three years?! That was the Stone Age!

Dear CCI
I am a disabled user of a 128. After just upgrading from a 64. The 128 basic is very good, but I wish you would print more 128 progs in your mag please. Also you have a very good Mag.
Yours sincerely
Dean Mckimmie, Australia

Dear Dean
We try, in general, to keep a balance between the interests of all Commodore computers – and all Commodore owners interests. In some cases, that is very difficult as there is a shortage of material available. We think, like you, that the 128 is a fine machine and we are sorry that we don't get as much material for it as we, and you, would like. But, in response to letters like your own we have in recent months greatly increased 128 coverage. We'll go on trying to keep up the quantity and quality of information and reviews for this underrated computer in the future.

Dear CCI
I am writing to you in total confusion! I own a very faithful CBM64!! I was going to sell it – and buy an Atari ST!! ARGHHH, you might say but you'll be pleased to hear that I'm going to keep my CBM 64, but I am wondering whether there is a faithful disk drive to go with my CBM. And is there a poke for Wizball and one for Parallax?
Yours faithfully
Jason Sims, Dover

Dear Jason
If it's a faithful disk drive you want, the good old 1541 is just the ticket. If you had paid close attention to Horgan's Hints in recent issues you would have known that typing WIZBORE on the title screen of Wizball makes you invincible, and that STACK, JEWEL, PARCH, SALON and GLOBE are the codes for the levels in Parallax.

Dear CCI,
I have read the issue of August 1988 and exactly the review about the game 'The Double'.

I would be very thankful if you could inform my about the name and the address of the company who made this game because, I want to buy it. I can say that it seems to me as the best football simulation.

But if you could send this game to me – of course with my economic aggravation – I would be at least happy. I ask this from you because I have never bought a program from any other country. I would like in your answer – if you answer – to give me details about how would I act to buy the program (about the money, how I am gonna pay ...)

I want to answer me by mail because your magazine is selling by shops only in the centre of Athens and never at the right time so I have to travel by bus half an hour to get to Athens.
Yours truly,
Lefteris Aggelis, Athens, Greece
P.S. Please forgive me for my bad English but I don't know them well.

Dear Lefteris Aggelis,
The name of the company who created 'The Double' is Johnson Scanafron and you will find their advertisement in this issue. We are sending a free copy of this magazine so that you can avoid those terrible shops half an hour away.
P.S. Your English is great! Even if you don't know them well. It's certainly better than our Greek!

cont. on next page

Dear Editor

Dear CCI,
Thank you very much for printing my letter in your April edition. Since you printed my letter I have had a tremendous response. I now have a grand 157 members, but that is only in the U.K., in France I have 68, Spain 49, America 96, Canada 113, 31 from Australia and a nice 195 in Germany and Holland. We are now a big club and have, as you have seen, gone world-wide. But I must say, altogether, we have got around 700 members, which I found, when I collected all the members together as I don't just run it on my own now, I have around 21 helpers. I have found a lot for the Plus/4 like this – MARBLE MADNESS and SILENT SERVICE are in Germany on the Plus/4, I didn't believe it myself, but its true as a member sent me copies. I'm very happy to be in the middle of what I hope is a club that may grow even more by the help of your magazine – CCI. I do want to advertise in your magazine, but as yet, haven't got the money, so I hope you print this letter too until then.

Our new look magazine is out on DISK and TAPE, oh yes! The magazine is a computerised one, it is done in M/C by an excellent M/C programmer who has a program to be published in a magazine, forgotten which one! Anyway, I hope to receive more members with CCI's help and one thing, I would be grateful if you would include an SAE as I can't afford to keep paying for stamps and envelopes myself, thanks, and remember – *for a true Plus/4 Club, make it CPBTC.*

Yours thankfully,
Shane Steven.
P.S. If there are any of your readers who write to you with problems on the PLUS/4, send them to us and we will save you the bother. Also we are interfacing an AMIGA 500 onto a PLUS/4, so far, all is going well!

CPBTC,
190 Stanstead Road,
Forest Hill

Dear Shane,
We're pleased to hear your club is doing so well. We would certainly like to see Marble Madness and Silent Service you mention – and so would lots of Plus/4 owners here. And an interface for the A500, that's really something! Keep us informed and long live the Plus/4 – and its club!

Dear CCI,
I think that your mag is fab, brill, fantastic and the best. It outdoes all the rest because you cover everything about Commodore and has the latest news and reviews.

I own a C64 and had it for about three years now. I wish to upgrade to an Amiga 500 by the end of '88. To me, the Amiga is the most brilliant machine and I'm sure you think so too.

Down here in Australia, the A500 is so cheap it's only $875 and that's cheap compared to the Atari ST. The Atari ST is only $895, what a rip off for that junk! So down here nobody would buy an ST.

Computer magazines are costing too much here. They cost between $4.20 to $6.75. Games are not so cheap too, a £10 game would cost $24.95. There's a lot of pirating here, and two out of 16 friends of mine have at least five originals, the rest have copies that have been cracked and unprotected, and eleven have disk drives, two of them C128 drives, and three of them have a Freeze Machine. I don't have a disk drive but I do know how to use one, e.g. Scratch, Validate, Rename etc, I know all of these. I also know how to use an Amiga but not that much.

There's a hacker's version of Outrun which I haven't seen but they say that it's heaps better than the C64 version by US Gold.

In Perth there's a terminal over the modem in which you can get many of the latest software. You can choose from 7,000 of these and they're all free too, but you only pay $20 a year for it. It's called Omen III.

I think that companies like Ocean, Firebird, Mastertronic, Codemasters etc. should protect the software more heavily because too many people copy games and if too many do, then companies won't make software for Commodore. So if you are a pirate, then copy games for yourself, but not to everybody that you can get your hands on.

So it's time to say goodbye. 'Goodbye'.
Raul Soban, Perth, Australia
P.S. Keep up the brilliant work.
P.P.S. I like it when you use Amiga Grafix on the front cover.

Dear CCI,
My name is Marcin I'm fourteen years old. I'm live in Polish country Masuria. I learn in elektrician school.

Lately we are very interested microcomputers. My dream is to have some day my own computer. It can't be done because our family is not rich. Only you can do my dreams real if you will send me microcomputer (Commodre C-GH with Commodore Cassetter – Rekorder Datasette, „VC1530" or another one) in postal packet. When I shall be grown up and if I shall can I try to repay an obligation.
Yours,
Marcin Michalowski.
My address:
Michalowski Marcin,
Skandlawka
11-410 Barciany
Poland.

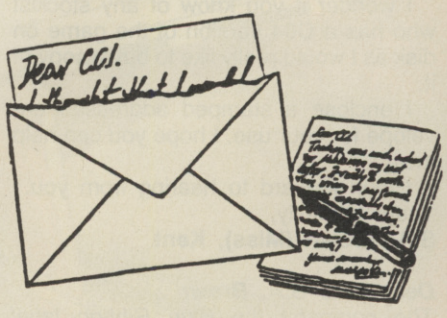
PS. Góyby byto to nie moiliwe to prositbym chociar o prujstanie mi malego magnetoform „WALKMENA". Wzamin zato & chetnie zapraszam Was do mure do Polski na Mercury.

Dear Mercin,
Well, so far as we know it's the first time CCI has printed a letter from Poland! We don't have any old computers lying around but it may be that among CCI's readers there is someone of Polish ancestry who wants to help out. So all you helpful owners out there – Polish or not – what about it? If you've got a computer (CBM, of course!) you are not using (in good, working order! We don't want Mercin to have problems) send it, well-packed to his address and let us know. We'll send him some software.

Dear CCI
G'day. How are ya's all goin'. From the first day I had bought my C64 I have also bought your great magazine. It's different from the others. Yours is very informative on games, what products are coming onto the market, etcetera, of which everything (of course) is sold on the British market.

Which brings me, at last, to the topic of this letter. In your April '88 edition of your mag there was another "HOME COMPUTER CLUB' brochure. It broke my heart to find that the club was only for the UK. I was just about to post the application form for 'Living Daylights' and 'They Sold A Million 3' when I noticed. So, I was wondering if you know of any Australian clubs, or anyone who might know of one. It would be greatly appreciated if you could help me out.
Yours sincerely
S Byrne
P.S. You might have heard about our Expo, so I have sent you a sticker. Sorry I could only get one.

G'day to you, too! SB!
The Home Computer Club is, as you point out, only for the UK So maybe there's someone out there in Aussie land who can tell SB all about it.
Thanks for the sticker!



COMMODORSKI

C64
Gail Hepburn
Fancy brushing up on your Russian? Well, this program will help and it's quite an eye opener. A short article is provided. It includes a copy of the Cyrillic alphabet – THIS IS VITAL!! Don't try it without!

"Turn your Commodore 64 into a Russian-typing Commodorski," says Gail Hepburn. (It's nice to have a feminine contributor for a change!) Who says computers only interest men!

"Commodorski is just what President Reagan needs to write to his friend Gorbachev! Russian is an easy language to learn. I saw Mrs Thatcher on TV on a walkabout among the ordinary Russians. The women were calling out "mir" as she passed among them. Did Maggie know that "mir" is Russian for peace?

Unlike English words which are written using the 26 letters of the Roman alphabet, Russian is written using the 32 letters of the Cyrillic alphabet. The letters, A, E, K, M, O and T are the same in English and Russian. A B in Russian is pronounced as a V in English. The Russian H is like an English N, the C is like an English S and the P is like R. By substituting the Russian letter for the English equivalent, you can read many Russian words which are the same or similar to the English word. For example, if you think of the Russian H as being N and read the Russian word MOMEHT you get the English word MOMENT. Similarly, substituting the P for R, the Russian word MOTOP is the English word MOTOR. Several Russian letters are completely different from English.

Commodorski allows you to type in the English letter and the computer will type the equivalent Russian letter. When you have done that you can then try typing the English letters for the Russian words and translate some Russian words using your knowledge of the Russian alphabet. The English letter must be type in upper case (capital) letters by pressing the shift key while typing in the letters as with a typewriter.

Before typing in Commodorski, press the shift and Commodore key simultaneously to put the computer into your upper case/lower case mode. Type in the program exactly as printed in upper and lower cases."

Thanks Gail, for an interesting program.

Russian Alphabet

STANDARD		ITALICS	NAME	TRANSLITERATION
А	а	*а*	ah	a
Б	б	*б*	beh	b
В	в	*в*	veh	v
Г	г	*г*	geh	g
Д	д	*д*	deh	d
Е	е	*е*	yeh	e
Ж	ж	*ж*	zheh	zh
З	з	*з*	zeh	z
И	и	*и*	ee	i
Й	й	*й*	ee kratkoye	ĭ
К	к	*к*	ka	k
Л	л	*л*	el	l
М	м	*м*	em	m
Н	н	*н*	en	n
О	о	*о*	aw	o
П	п	*п*	peh	p
Р	р	*р*	ehr	r
С	с	*с*	ess	s
Т	т	*т*	teh	t
У	у	*у*	oo	u
Ф	ф	*ф*	ef	f
Х	х	*х*	hha	kh
Ц	ц	*ц*	tseh	ts
Ч	ч	*ч*	tcheh	ch
Ш	ш	*ш*	sha	sh
Щ	щ	*щ*	shcha	shch
Ъ	ъ	*ъ*	mute hard sign	—
Ы	ы	*ы*	yeri	y
Ь	ь	*ь*	mute soft sign	—
Э	э	*э*	eh oborotnoye	e
Ю	ю	*ю*	yoo	yu
Я	я	*я*	ya	ya

```
1000 printchr$(147)
1010 poke56,14*4:clr:poke53272,(peek(53272)and240)or14
1020 po=12288:ct=0:ck=0
1030 read a:if a=-1 then 1090
1040 if a>255 then 1350
1050 poke po,a:ck=ck+a:ct=ct+1:po=po+1
1060 if ct<>8 then 1030
1070 read cs:if ck<>cs then 1340
```

cont. on next page

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```
1080 ck=0:ct=0:print"[HOM]"peek(64)*256+peek(63):goto1030
1090 rem end of data
1100 read cs:if ck<> cs then 1340
1110 rem
1120 sys12288
1130 data 173,014,220,041,254,141,014,220,1077
1140 data 173,024,208,041,014,010,010,133,0613
1150 data 167,169,216,133,252,173,000,221,1331
1160 data 041,003,073,003,010,010,010,010,0160
1170 data 010,010,005,167,133,254,165,001,0745
1180 data 041,251,133,001,169,000,133,251,0979
1190 data 133,253,168,162,008,177,251,145,1297
1200 data 253,200,208,249,230,252,230,254,1876
1210 data 202,208,242,165,001,009,004,133,0964
1220 data 001,173,014,220,009,001,141,014,0573
1230 data 220,096,-1,0316
1240 po=14336:ct=0:ck=0
1250 read a:if a=-1 then 1310
1260 if a=>255 then 1350
1270 poke po,a:ck=ck+a:ct=ct+1:po=po+1
1280 if ct<>8 then 1250
1290 read cs:if ck<>cs then 1340
1300 ck=0:ct=0:print"[HOM]"peek(64)*256+peek(63):goto1250
1310 rem  end of data
1320 read cs:if ck<> cs then 1340
1330 goto 1680
1340 poke53272,21:print "error in line ";peek(64)*256+peek(63):end
1350 poke53272,21:print "data range error in line ";peek(64)*256+peek(63):end
1360 data 248,176,048,048,062,050,050,062,0744
1370 data 126,070,006,062,102,102,102,127,0697
1380 data 030,112,096,126,102,102,102,126,0796
1390 data 098,102,108,120,120,108,102,098,0856
1400 data 126,054,054,102,102,102,126,130,0796
1410 data 126,102,102,126,096,096,102,124,0874
1420 data 024,126,090,090,090,090,126,024,0660
1430 data 126,098,096,096,096,096,096,096,0800
1440 data 126,098,096,096,096,096,096,096,0800
1450 data 102,102,110,110,126,118,102,102,0872
1460 data 153,219,090,126,126,090,219,153,1176
1470 data 098,102,108,120,120,108,102,098,0856
1480 data 062,054,054,054,054,054,246,246,0824
1490 data 066,102,126,102,102,102,102,102,0804
1500 data 102,102,102,126,126,102,102,102,0864
1510 data 060,126,102,102,102,102,126,060,0780
1520 data 126,126,102,102,102,102,102,102,0864
1530 data 066,066,066,066,122,074,074,122,0656
1540 data 124,102,098,102,124,096,096,096,0838
1550 data 126,098,096,096,096,096,098,126,0832
1560 data 126,090,024,024,024,024,024,024,0360
1570 data 102,102,102,060,028,024,088,120,0626
1580 data 124,102,102,124,124,102,102,124,0904
1590 data 102,102,102,102,102,102,126,002,0740
1600 data 195,102,060,024,024,060,102,195,0762
1610 data 126,066,002,030,030,002,066,126,0448
1620 data 124,070,066,030,030,066,070,126,0582
1630 data 102,102,102,126,006,006,006,006,0456
1640 data 090,090,090,090,090,090,126,126,0792
1650 data 094,082,082,114,114,082,082,094,0744
1660 data 062,054,054,030,054,102,102,198,0656
1670 data -1,0
1680 poke53280,0:poke53281,0:poke646,4
1690 print"[CLR][WHT]WHEN YOU TYPE IN ENGLISH"
1700 print"THE COMPUTER WILL TYPE IN RUSSIAN"
1710 print
1720 print"THE FOLLOWING WORDS ARE THE SAME"
1730 print"IN ENGLISH AND RUSSIAN"
```

```
1740 print
1750 print"TYPE THESE WORDS"
1760 print:print
1770 print"AMSTERDAM","AFRICA","ALGEBRA"
1780 print:print:print
1790 print"CLASS","CONDUCTER","CACTUS"
1800 print:print:print
1810 print"CLIENT","COMFORT","COMPONENT"
1820 print:print:print
1830 print"PRESS THE RETURN KEY TO CONTINUE"
1840 poke214,12
1850 poke211,0
1860 sys58640
1870 gosub3100
1880 printchr$(147)
1890 print"TYPE THESE WORDS"
1900 print
1910 print"FACT","ARAB","ASPIRIN"
1920 print:print:print
1930 print"EFFECT","FACT","FRONT"
1940 print:print:print
1950 print"DEFECT","DOCTOR","DISC"
1960 print:print:print
1970 print"AMERICA","BANK","CLUB"
1980 print:print:print
1990 print"OPERA","PARK","PIANIST"
2000 print:print:print
2010 print"PRESS THE RETURN KEY TO CONTINUE"
2020 poke214,5
2030 poke211,0
2040 sys58640
2050 gosub3100
2060 printchr$(147)
2070 print"TYPE THESE WORDS"
2080 print:print
2090 print"CAMERA","GAMMA","HANDICAP"
2100 print:print:print
2110 print"IDOL","JARGON","KILO"
2120 print:print:print
2130 print"LENIN","LONDON","MINUS"
2140 print:print:print
2150 print"MOMENT","NUCLEUS","ORGAN"
2160 print:print:print
2170 print"PRESS THE RETURN KEY TO CONTINUE"
2180 poke214,6
2190 poke211,0
2200 sys58640
2210 gosub3100
2220 printchr$(147)
2230 print"TYPE THESE WORDS"
2240 print:print
2250 print"PLAN","RADIO","ROBOT"
2260 print:print:print
2270 print"SPUTNIK","RISK","TANK"
2280 print:print:print
2290 print"PICNIC","INVALID","DIPLOMAT"
2300 print:print:print
2310 print"CRATER","CORRESPONDENT","CANAL"
2320 print:print:print
2330 print"PRESS THE RETURN KEY TO CONTINUE"
2340 poke214,6
2350 poke211,0
2360 sys58640
2370 gosub3100
2380 printchr$(147)
2390 print"TYPE THESE WORDS"
```

cont. on next page

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```
2400 print:print
2410 print"COSMOS","CANADA","CRITIC"
2420 print:print:print
2430 print"DECORATOR","DIALECT","DIRECTOR"
2440 print:print:print
2450 print"DOCUMENT","ELEVATOR","GALLON"
2460 print:print:print
2470 print"HALO","HELICOPTER","HEROIN"
2480 print:print:print
2490 print"PRESS THE RETURN KEY TO CONTINUE"
2500 poke214,6
2510 poke211,0
2520 sys58640
2530 gosub3100
2540 printchr$(147)
2550 print"TYPE THE ENGLISH LETTERS IN CAPITALS"
2560 print"UNDER THE LETTERS OF THE RUSSIAN WORDS"
2570 print:print
2580 print"idiot","ingredient","inspector"
2590 print:print:print
2600 print"snob","kiosk","leopard"
2610 print:print:print
2620 print"lift","leningrad","mineral"
2630 print:print:print
2640 print"million","motor","minimum"
2650 print:print:print
2660 print"PRESS THE RETURN KEY TO CONTINUE"
2670 poke214,7
2680 poke211,0
2690 sys58640
2700 gosub3100
2710 printchr$(147)
2720 print"TYPE AS BEFORE"
2730 print:print
2740 print"ocean","opponent","pilot"
2750 print:print:print
2760 print"product","radiator","secret"
2770 print:print:print
2780 print"signal","student","tractor"
2790 print:print:print
2800 print"transport","congress","partner"
2810 print:print:print
2820 print"PRESS THE RETURN KEY TO CONTINUE"
2830 poke214,6
2840 poke211,0
2850 sys58640
2860 gosub3100
2870 printchr$(147)
2880 print"[ IN RUSSIAN IS CH IN ENGLISH"
2890 print
2900 print"w IS TS AND u IS U"
2910 print
2920 print"£ IS SH AND x IS CH AS IN LOCH"
2930 print
2940 print"TRANSLATE THESE WORDS"
2950 print
2960 print"gorba[ev[SP3]prezident regen[SP3]taksi"
2970 print
2980 print"comp@]ter[SP3]£ok[SP3]rubl@[SP3]balet"
2990 print
3000 print"bomba[SP3]vodka[SP3]fil@ma[SP3]suvenir"
3010 print
3020 print"telefon[SP3]mat[[SP3]pasport[SP3]ikona"
3030 print
3040 print"men][SP3]futbol[SP3]adres[SP3]turist"
3050 print
```

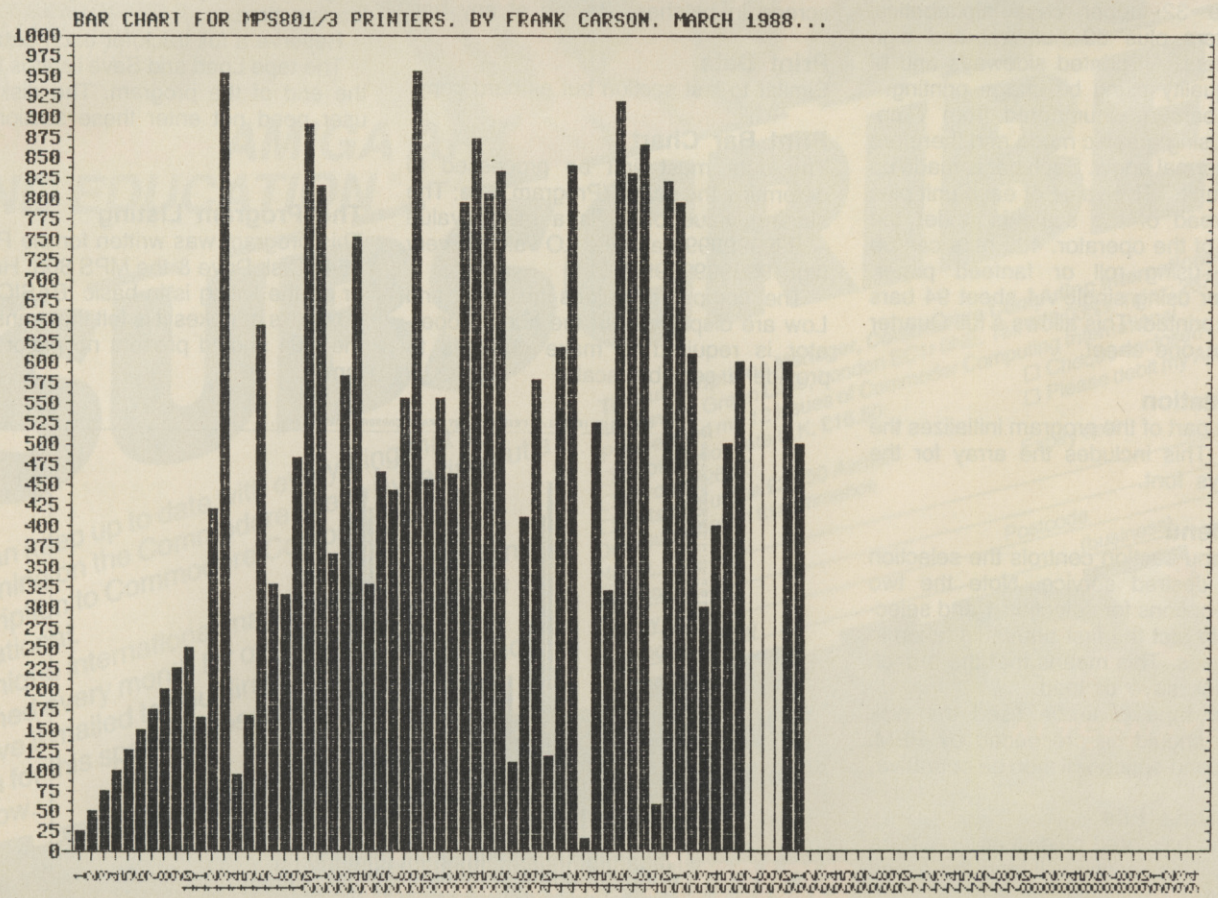
continued on page 107

continued from page 106

```
3060 print"konwert[SP3]signatura[SP3]xaos[SP3]minuta"
3070 print
3080 print"temperatura[SP3]institut[SP3]kofe"
3090 end
3100 poke19,64
3110 inputa$
3120 poke19,0:print
3130 return
```

BARCHART

+4 (and C128)
F. Carson
This is an interesting sideways printing barchart drawing program. It is very well-designed and will find many uses. This was written for the +4 but as it is all in Basic it works just as well on the C128.



cont. on next page

BARCHART

A utility program from the MPS 801/3 Printers

By Frank Carson

Bar Charts
This type of chart can be used to show graphically a tabulated statement of data over a period of time. The type of data can be: Production figures. Profit and loss. Rainfall. Share prices etc. A well turned out chart will be easy to understand. It will impress and give confidence far in excess of written text or a list of Data.

As they stand the MPS801/3 printers are not able to produce a professional looking chart. A printer to produce a presentable chart will find a welcome in the home, office and schools etc. With this in mind I looked at the problem from another angle.

Another Angle?
In fact a 90° angle. The chart is printed sideways. This allows the chart to be as long as required. However, storage has in fact been limited to 400 bars. This allows for 365 days plus a little to spare for overlap into the next year.

Data is included in the program to produce 32 upper case alphabetical characters plus 32 numeral and sign characters. All printed sideways and of good quality using bit image printing.

The bars are numbered from 1 upwards using graphic mode and therefore at the normal angle. Each bar is made up of 400 units. The value of each unit plus the spread of the scale is under the control of the operator. 400 bars can be printed using roll or fanfeed paper. However using single A4 sheet 94 bars can be printed. This allows a full Quarter Year on one sheet.

Initialization
The fist part of the program initializes the arrays. This includes the array for the sideways font.

The Menu
The Menu section controls the selection of the desired service. Note the two branch options for selection 1 and selection 7. In fact the first branch is taken in both cases. This means that the branch is to disk save or load.

If the tape is to be used the disk options should be preceeded by REM. The second option will then be operative.

Load Data File
Data can be stored on disk or tape. (See option). This section will load the saved data file.

Enter New Data
This section allows bar data to be entered from scratch or added to an existing file.

The next available bar number is displayed and the data for that bar can be entered.

The next bar number is then displayed and so on.

To escape back to the menu hold down the 9 key. Enter 9999999999 or more and press return.

If no data is available for any bar then press return without an entry. This is to allow for non working days. The bar for that number will take the value of the last bar but will print out as a single line only.

Alter Data
This section allows any existing bar to be viewed and the option is given to change the data.

Display Data
This allows the data to be viewed on the screen in batches, starting at any bar.

Print Data
Similar to last section but as hard copy.

Print Bar Chart
The data must first be processed to determine the scale. (Program note: The starting value of HI is a minus value –99999999999 and the LO value is very high 999999999999).

The computers values for High and Low are displayed but the human operator is required to make changes to provide a sensible scale.

The new scale values are then displayed and if the operator is not happy then another scale can be tried.

The greatest number catered for is 99999999. Note here that the scale can be to two points of decimals.

If greater accuracy is desired the formula for C1(I) could be altered. For instance. *C1(I)=INT(C1(I+.0005)*1000)/1000* will allow three points of decimal etc. etc.

The chart can start and end at any bar depending upon the paper length.

There is also an option to omit the scale and values at the beginning of the chart.

This is useful if the chart is to be the continuation of another chart.

Save Data File
This saves the file to disk or tape.

Note the modification for using tape. (See Menu Section). Use C20 tape or longer and expect a long save and loading time.

Reserve a full track for each data file.

The tape Load and Save listings are at the end of the program. The disk only user need not enter these sections.

The Program Listing
This program was written for the Plus/4, 1541 Disk Drive & the MPS 803. However as the listing is in basic 'BASIC' with no peeks or pokes it is felt that transfer to the C64 should present no major problems.

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BAR CHART FOR MPS801/3 PRINTERS. BY FRANK CARSON. MARCH 1988...

BAR DATA LIST.

```
BAR 1 = 25          BAR 2 = 50          BAR 3 = 75
BAR 4 = 100         BAR 5 = 125         BAR 6 = 150
BAR 7 = 175         BAR 8 = 200         BAR 9 = 225
BAR 10 = 250        BAR 11 = 165        BAR 12 = 420
BAR 13 = 952        BAR 14 = 95         BAR 15 = 167
BAR 16 = 645        BAR 17 = 327        BAR 18 = 316
BAR 19 = 482        BAR 20 = 891        BAR 21 = 814
BAR 22 = 366        BAR 23 = 583        BAR 24 = 753
BAR 25 = 327        BAR 26 = 466        BAR 27 = 442
BAR 28 = 555        BAR 29 = 955        BAR 30 = 455
BAR 31 = 556        BAR 32 = 463        BAR 33 = 796
BAR 34 = 872        BAR 35 = 804        BAR 36 = 833
BAR 37 = 109        BAR 38 = 411        BAR 39 = 577
BAR 40 = 118        BAR 41 = 618        BAR 42 = 841
BAR 43 = 14         BAR 44 = 526        BAR 45 = 320
BAR 46 = 917        BAR 47 = 830        BAR 48 = 865
BAR 49 = 58         BAR 50 = 821        BAR 51 = 794
BAR 52 = 611        BAR 53 = 300        BAR 54 = 400
BAR 55 = 500        BAR 56 = 600        BAR 57 = 600
BAR 58 = 600        BAR 59 = 600        BAR 60 = 600
BAR 61 = 500
```

```
1000 REM BAR CHART PROGRAM. F.CARSON. MAY 1988.
1010 REM
1020 REM#################################### INITIALISE ARRAYS.
1030 DV$=""
1040 FORI=1TO4:DV$=DV$+CHR$(192):NEXTI
1050 DV$=DV$+CHR$(240)
1060 FORI=6TO9:DV$=DV$+CHR$(192):NEXTI
1070 DY$=DV$+CHR$(255)+CHR$(255)
1080 DV$=DV$+CHR$(248)
1090 TE$=""
1100 FORI=1TO4:TE$=TE$+CHR$(136):NEXTI
1110 TE$=TE$+CHR$(255)
1120 SCNCLR:PRINT:PRINT:PRINT:PRINT"RUNNING!!!![SP2]PLEASE WAIT."
1130 DIM C$(70)
1140 DIMSC$(50)
1150 DIM  C1(50)
1160 DIM N(400)
1170 DIM BT(400):LN= 4230
1180 FORI=0TO64
1190 PRINT".";
1200 B$="":CK=0
1210 FORX=1TO8
1220 READA:CK=CK+A
1230 IF A>255 THEN 1310
1240 A$=CHR$(A)
1250 B$=B$+A$
1260 NEXTX
1270 READ C:IF CK<>C THEN 1320
1280 C$(I)=B$
1290 LN=LN+10:NEXTI
1300 PRINT:GOTO 1330
1310 PRINT "DATA RANGE ERROR IN LINE ";LN:END
1320 PRINT "DATA CHECKSUM[SP2]ERROR IN LINE ";LN:END
1330 FORI=0 TO400
1340 N(I)=1
```

continued on page 113

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```
1350 BT(I)=128
1360 NEXTI
1370 LB$="BAR CHART FOR THE MPS 801/3 PRINTERS.[SP2]FRANK CARSON.[SP3]MAY 1988."
1380 REM###################################### MENU.
1390 SCNCLR:PRINT:PRINT"[SP9]MENU."
1400 PRINT:PRINT" 1. LOAD DATA FILE."
1410 PRINT:PRINT" 2. ENTER NEW DATA."
1420 PRINT:PRINT" 3. ALTER DATA."
1430 PRINT:PRINT" 4. DISPLAY DATA."
1440 PRINT:PRINT" 5. PRINT DATA."
1450 PRINT:PRINT" 6. PRINT BAR CHART."
1460 PRINT:PRINT" 7. SAVE DATA FILE."
1470 PRINT:PRINT" 8. EXIT !!!"
1480 PRINT:PRINT" ENTER NUMBER OF DESIRED SERVICE.":PRINT
1490 INPUT S
1500 IF S=8 THEN END
1510 IFS<1 OR S>7 THEN1390
1520 IFS=1 THEN 1620
1530 IFS=1 THEN 4890
1540 IFS=2 THEN 2140
1550 IFS=3 THEN 1860
1560 IFS=4 THEN 2350
1570 IFS=5 THEN 2540
1580 IFS=6 THEN 2810
1590 IFS=7 THEN 4030
1600 IFS=7 THEN 5040
1610 REM###################################### LOAD DISC FILE.
1620 SCNCLR:PRINT:PRINT:PRINT:PRINT
1630 PRINT"ENTER NAME OF DATA FILE TO BE LOADED."
1640 PRINT:PRINT"THIS MUST BE A BAR DATA FILE.":PRINT:PRINT
1650 NM$="":INPUTNM$
1660 IF LEN(NM$) <1  THEN 1620
1670 IF LEN(NM$) <17 THEN 1700
1680 SCNCLR:PRINT:PRINT:PRINT:PRINT"NAME TOO LONG. TRY AGAIN."
1690 GOTO 1650
1700 OPEN15,8,15
1710 OPEN8,8,8,"0:"+NM$+",S,R"
1720 INPUT#15,A,B$,C,D
1730 IF A>0THENSCNCLR:PRINT:PRINT:PRINT:B$:CLOSE8:CLOSE15:GOTO1400
1740 FORI=0TO400
1750 INPUT#8,A
1760 N(I)=A
1770 NEXTI
1780 FORI=1TO400
1790 INPUT#8,A
1800 BT(I)=A
1810 NEXTI
1820 INPUT#8,LB$
1830 CLOSE8:CLOSE15
1840 GOTO 1390
1850 REM###################################### ALTER DATA.
1860 SCNCLR:PRINT:PRINT:PRINT
1870 PRINT"ENTER THE NUMBER OF THE BAR[SP13]TO BE ALTERED."
1880 PRINT:PRINT
1890 YN$=""
1900 INPUT BN
1910 IF BN<N(0) THEN 1970
1920 SCNCLR:PRINT:PRINT:PRINT:PRINT"NO DATA FOR THIS BAR EXISTS!!"
1930 PRINT:PRINT:PRINT "USE MENU NUMBER 2.TO ENTER ANY NEW DATA."
1940 FOR I=1TO3000:NEXTI
1950 GOTO 1390
1960 REM----------------------------
1970 SCNCLR:PRINT:PRINT:PRINT:PRINT"BAR NUMBER "BN" ="N(BN)
1980 PRINT:PRINT:PRINT"DO YOU WISH TO CHANGE THIS DATA":PRINT:PRINT:A$=""
1990 PRINT "ENTER Y OR N.":PRINT:PRINT
2000 INPUT A$
```

continued from page 113

```
2010 IF A$<>"Y" THEN 1390
2020 SCNCLR:PRINT:PRINT
2030 PRINT"ENTER NEW DATA."
2040 PRINT:PRINT
2050 INPUT BD
2060 N(BN)=BD:BT(BN)=254
2070 SCNCLR:PRINT:PRINT
2080 PRINT"ANOTHER BAR. ENTER Y OR N."
2090 PRINT:PRINT
2100 YN$="N":INPUT YN$
2110 IF YN$="Y" THEN 1860
2120 GOTO 1390
2130 REM###################################### ENTER NEW DATA.
2140 NB=N(0)
2150 SCNCLR:PRINT:PRINT: PRINT"TO RETURN TO MENU ENTER 999999999999"
2160 PRINT"----------------------------------"
2170 PRINT:PRINT
2180 PRINT"THE NEXT BAR IS NUMBER. "NB
2190 IFNB>400 THEN2310
2200 PRINT:PRINT"IF NO DATA IS AVALIABLE FOR THIS BAR"
2210 PRINT"PRESS RETURN WITHOUT AN ENTRY.!!!!"
2220 PRINT:PRINT"ENTER DATA FOR BAR"NB:PRINT
2230 N(NB)=-999999999: INPUTN(NB)
2240 IFN(NB)>999999999 THEN 1390
2250 IFN(NB)>-999999999 THEN 2290
2260 N(NB)=N(NB-1):BT(NB)=136
2270 N(0)=N(0)+1
2280 GOTO2140
2290 N(0)=NB+1:BT(NB)=254
2300 GOTO 2140
2310 SCNCLR:PRINT"ALL 400 BARS FILLED."
2320 FOR I=1TO3000:NEXTI
2330 GOTO 1390
2340 REM###################################### DISPLAY DATA.
2350 NB=N(0):SCNCLR:PRINT:PRINT:PRINT"DATA IS ENTERED FOR"NB-1" BARS."
2360 PRINT:PRINT"ENTER BAR NUMBER TO COMMENCE THE DISPLAY"
2370 PRINT:PRINT
2380 BS=1: INPUTBS
2390 IFBS>NB-1THENBS=NB-1
2400 GOTO 2420
2410 BS=BE+1
2420 BE=BS+19:IFBE>NB-1 THEN BE=NB-1
2430 SCNCLR:FOR I=BSTOBE
2440 PRINT "BAR"I;"[SP3]=[SP2]";N(I)
2450 NEXTI
2460 A$="N":PRINT
2470 INPUT "MORE DATA!![SP2]ENTER Y OR N.";A$
2480 IFA$="Y" ANDI=NB  THEN 2510
2490 IFA$="Y" THEN 2410
2500 GOTO2520
2510 SCNCLR:PRINT:PRINT:PRINT"NO FURTHER DATA.!!!":FORI=1TO3000:NEXTI
2520 GOTO 1390
2530 REM###################################### PRINT DATA.
2540 NB=N(0):SCNCLR:PRINT:PRINT:PRINT"DATA IS ENTERED FOR"NB-1" BARS."
2550 PRINT:PRINT: PRINT"ENTER BAR NUMBER TO START PRINTING."
2560 BS=1:INPUTBS
2570 IF BS>NB-1THEN2550
2580 PRINT:PRINT:PRINT"ENTER BAR NUMBER TO END PRINTING."
2590 BE=NB-1 :INPUTBE
2600 IF BE<BS THEN BE=BS
2610 IF BE>NB-1 THEN BE=NB-1
2620 OPEN4,4
2630 PRINT#4,"[SP8]"LB$
2640 PRINT#4
2650 PRINT#4
2660 PRINT#4,"[SP32]BAR DATA LIST."
```

```
2670 PRINT#4,"[SP32]--------------"
2680 PRINT#4:TB=1
2690 FOR I=BSTOBE
2700 IFTB>1THEN2720
2710 PRINT#4,CHR$(16);"01";"BAR"I;"="N(I);:GOTO2750
2720 IFTB>28THEN2740
2730 PRINT#4,CHR$(16);"28";"BAR"I;"="N(I);:GOTO2750
2740 PRINT#4,CHR$(16);"56";"BAR"I;"="N(I)
2750 IFTB=1THENTB=28:GOTO2780
2760 IFTB=28THENTB=56:GOTO2780
2770 IFTB=56THENTB=1 :GOTO2780
2780 NEXTI
2790 PRINT#4,:CLOSE4:GOTO1390
2800 REM##################################### PRINT BAR CHART.
2810 SCNCLR:PRINT:PRINT: PRINT"PROCESSING DATA.[SP2]PLEASE WAIT.!!!"
2820 BN=N(0)
2830 HI=-99999999999
2840 LO=99999999999
2850 FORI=1TOBN-1
2860 IF N(I)>HI THEN HI =N(I)
2870 IF N(I)<LO THEN LO =N(I)
2880 NEXTI
2890 UN=(HI-LO)/400
2900 SCNCLR:PRINT:PRINT"THE HIGHEST VALUE IS"HI
2910 PRINT"THE LOWEST VALUE IS" LO
2920 PRINT:PRINT"INPUT A ROUNDED DOWN LOW VALUE."
2930 RL=LO:  INPUTRL
2940 PRINT:PRINT"INPUT A SUITABLE UNIT VALUE ROUNDED UP[SP2]FROM"UN:PRINT
2950 RU=UN:INPUTRU
2960 REM ------------------------------
2970 REM ######## FORMULA IS FOR TWO DECIMAL POINTS. #####
2980 X=RL:SCNCLR:PRINT
2990 FORI=0 TO 41
3000 C1(I)=X
3010 C1(I)=INT(C1(I+.005)*100)/100
3020 X=X+RU*10
3030 NEXTI
3040 REM ------------------------------
3050 PRINT"HI="HI"[SP2]SCALE STARTS AT"RL
3060 FORI=1 TO 40 STEP2:PRINTTAB(2);I".";C1(I);
3070 PRINTTAB(20);I+1".";C1(I+1)
3080 NEXTI
3090 PRINT:PRINT"IS THE SCALE NUMBERING OK. ENTER Y OR N"
3100 A$="N": INPUTA$
3110 IFA$<>"Y"THEN 2900
3120 REM--------------------------------
3130 SCNCLR:PRINT:PRINT:PRINT"WORKING:-";
3140 FOR I=0TO40
3150 PRINT".";
3160 SC$(I)=STR$(C1(I))
3170 IF LEN(SC$(I))<9 THEN SC$(I)=" "+SC$(I) :GOTO 3170
3180 NEXTI
3190 SCNCLR:PRINT:PRINT
3200 PRINT"THE PRESENT HEADER IS:-":PRINT
3210 PRINTLB$
3220 PRINT:PRINT:PRINT"DO YOU WISH TO ALTER THE TEXT??":PRINT
3230 PRINT"ENTER Y OR N."
3240 A$="N":INPUTA$
3250 IF A$<>"Y"THEN3310
3260 SCNCLR:PRINT:PRINT:PRINT"INPUT NEW HEADER. MAXIMUM 64 CHARACTERS."
3270 LB$="[SP20]":INPUTLB$
3280 IF LEN(LB$)>64THENLB$=RIGHT$(LB$,64)
3290 IF LEN(LB$)<64THENLB$=LB$+" ":GOTO3290
3300 REM-------------------------------------
3310 NB=N(0)
3320 SCNCLR:PRINT:PRINT:PRINT"THERE ARE"NB-1" BARS."
```

```
3330 PRINT:PRINT"ENTER THE BAR NUMBER TO START CHART."
3340 BS=1:INPUTBS
3350 IFBS>NB-1THENBS=NB-1
3360 PRINT:PRINT"ENTER THE BAR NUMBER TO END CHART."
3370 BE=NB-1:INPUTBE
3380 IFBE<BSTHENBE=BS
3390 IFBE>400THENBE=400
3400 SCNCLR:PRINT:PRINT:PRINT"[SP8]OPTIONS."
3410 PRINT"[SP8]--------"
3420 PRINT:PRINT:PRINT"1.[SP2]PRINT CHART WITH VALUES & SCALE."
3430 PRINT:PRINT:PRINT"2.[SP2]PRINT CHART LESS VALUES & SCALE."
3440 PRINT:PRINT:PRINT"ENTER THE NUMBER OF THE OPTION REQUIRED.":PRINT
3450 O=1:INPUTO
3460 SCNCLR:PRINT:PRINT:PRINT"PRINTING CHART:-";
3470 OPEN4,4:PRINT#4,CHR$(8);
3480 IFO>2THEN3440
3490 IFO=2THEN3640
3500 FORY=1 TO 9
3510 PRINT#4,CHR$(27);CHR$(16);CHR$(0);CHR$(28);
3520 FORX=0TO40
3530 PRINT".";
3540 A$=SC$(X):A$=MID$(A$,Y,1):A=ASC(A$)
3550 IFA>128THENA=A-128
3560 IF A<96 AND A>63 THEN A=A-64
3570 IF A<128 AND A>95 THEN A=A-96
3580 PRINT#4,C$(A);CHR$(128);CHR$(128);
3590 NEXTX
3600 PRINT#4,CHR$(13);
3610 NEXTY
3620 GOSUB3960
3630 REM-------------------------------------
3640 PRINT#4,CHR$(15);
3650 LL=1
3660 FORI=BSTOBE
3670 PRINT".";
3680 B$=STR$(I)
3690 IF LEN(B$)<4 THEN B$=" "+B$:GOTO3690
3700 PRINT#4,B$;CHR$(8);
3710 PRINT#4,CHR$(27);CHR$(16);CHR$(0);CHR$(28);
3720 PRINT#4,TE$;
3730 LG=N(I):LG=LG-RL:LG=LG/RU:LG=INT(LG+.5)
3740 A$=CHR$(BT(I))
3750 FORX=1TOLG
3760 PRINT#4,A$;
3770 NEXTX
3780 IFLL>64THEN3820
3790 A$=MID$(LB$,LL,1):A=ASC(A$)
3800 IF A<96 AND A>63 THEN A=A-64
3810 IF A<128 AND A>95 THEN A=A-96
3820 PRINT#4,CHR$(27);CHR$(16);CHR$(1);CHR$(177);
3830 PRINT#4,CHR$(255);
3840 IFLL>64THEN3870
3850 PRINT#4,CHR$(128);CHR$(128);CHR$(128);
3860 PRINT#4,C$(A);
3870 PRINT#4,CHR$(128)
3880 PRINT#4,CHR$(15);
3890 LL=LL+1
3900 NEXT I
3910 GOSUB3960
3920 PRINT#4,CHR$(15);
3930 PRINT#4,:CLOSE4
3940 GOTO1390
3950 REM-------------------------------
3960 PRINT#4,CHR$(8);
3970 PRINT#4,CHR$(27);CHR$(16);CHR$(0);CHR$(32);
3980 PRINT#4,CHR$(255);
```

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```
3990 FORI=1TO39:PRINT#4,DV$;:NEXTI
4000 PRINT#4,DY$;CHR$(128)
4010 RETURN
4020 REM##################################### SAVE FILE TO DISC.
4030 SCNCLR:PRINT:PRINT:PRINT:PRINT
4040 PRINT"ENTER NAME OF DATA FILE.":PRINT:PRINT
4050 NM$="":INPUTNM$
4060 IF LEN(NM$) <1  THEN 1390
4070 IF LEN(NM$) <17 THEN 4110
4080 SCNCLR:PRINT:PRINT:PRINT:PRINT
4090 PRINT"NAME TOO LONG. TRY AGAIN."
4100 GOTO 4030
4110 OPEN15,8,15
4120 OPEN8,8,8,"@0:"+NM$+",S,W"
4130 FORI=0TO400
4140 PRINT#8,N(I)
4150 NEXTI
4160 FORI=1TO400
4170 PRINT#8,BT(I)
4180 NEXTI
4190 PRINT#8,LB$
4200 CLOSE8:CLOSE15
4210 GOTO 1390
4220 REM##################################### DATA FOR SIDEWAYS FONT.
4230 DATA 128,158,163,131,187,187,179,158,1291
4240 DATA 128,179,179,179,191,179,158,140,1333
4250 DATA 128,159,179,179,159,179,179,159,1321
4260 DATA 128,158,179,131,131,131,179,158,1195
4270 DATA 128,143,155,179,179,179,155,143,1261
4280 DATA 128,191,131,131,143,131,131,191,1177
4290 DATA 128,131,131,131,143,131,131,191,1117
4300 DATA 128,158,179,179,187,131,179,158,1299
4310 DATA 128,179,179,179,191,179,179,179,1393
4320 DATA 128,158,140,140,140,140,140,158,1144
4330 DATA 128,142,155,152,152,152,152,188,1221
4340 DATA 128,179,155,143,135,143,155,179,1217
4350 DATA 128,191,131,131,131,131,131,131,1105
4360 DATA 128,227,227,227,235,255,247,227,1773
4370 DATA 128,179,179,187,191,191,183,179,1417
4380 DATA 128,158,179,179,179,179,179,158,1339
4390 DATA 128,131,131,131,159,179,179,159,1197
4400 DATA 128,184,158,179,179,179,179,158,1344
4410 DATA 128,179,155,143,159,179,179,159,1281
4420 DATA 128,158,179,176,158,131,179,158,1267
4430 DATA 128,140,140,140,140,140,140,191,1159
4440 DATA 128,158,179,179,179,179,179,179,1360
4450 DATA 128,140,158,179,179,179,179,179,1321
4460 DATA 128,227,247,255,235,227,227,227,1773
4470 DATA 128,179,179,158,140,158,179,179,1300
4480 DATA 128,140,140,140,158,179,179,179,1243
4490 DATA 128,191,131,134,140,152,176,191,1243
4500 DATA 128,158,134,134,134,134,134,158,1114
4510 DATA 128,255,163,134,159,134,164,152,1289
4520 DATA 128,158,152,152,152,152,152,158,1204
4530 DATA 140,140,140,140,191,158,140,128,1177
4540 DATA 128,132,134,255,255,134,132,128,1298
4550 DATA 128,128,128,128,128,128,128,128,1024
4560 DATA 128,140,128,128,140,140,140,140,1084
4570 DATA 128,128,128,128,128,179,179,179,1177
4580 DATA 128,179,179,255,179,255,179,179,1533
4590 DATA 128,140,159,176,158,131,190,140,1222
4600 DATA 128,177,179,134,140,152,179,163,1252
4610 DATA 128,254,179,243,142,158,179,158,1441
4620 DATA 128,128,128,128,128,140,152,176,1108
4630 DATA 128,152,140,134,134,134,140,152,1114
4640 DATA 128,134,140,152,152,152,140,134,1132
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cont. on next page

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4650 DATA 128,128,179,158,255,158,179,128,1313
4660 DATA 128,128,140,140,191,140,140,128,1135
4670 DATA 134,140,140,128,128,128,128,128,1054
4680 DATA 128,128,128,128,191,128,128,128,1087
4690 DATA 128,140,140,128,128,128,128,128,1048
4700 DATA 128,131,134,140,152,176,224,128,1213
4710 DATA 128,158,179,179,183,187,179,158,1351
4720 DATA 128,191,140,140,140,142,140,140,1161
4730 DATA 128,191,131,134,152,176,179,158,1249
4740 DATA 128,158,179,176,156,176,179,158,1310
4750 DATA 128,176,176,255,179,188,184,176,1462
4760 DATA 128,158,179,176,176,159,131,191,1298
4770 DATA 128,158,179,179,159,131,179,158,1271
4780 DATA 128,140,140,140,140,152,179,191,1210
4790 DATA 128,158,179,179,158,179,179,158,1318
4800 DATA 128,158,179,176,190,179,179,158,1347
4810 DATA 128,128,140,128,128,140,128,128,1048
4820 DATA 134,140,140,128,128,140,128,128,1066
4830 DATA 128,184,140,134,131,134,140,184,1175
4840 DATA 128,128,128,191,128,191,128,128,1150
4850 DATA 128,135,140,152,176,152,140,135,1158
4860 DATA 128,140,128,140,152,176,179,158,1201
4870 DATA 128,128,128,255,255,128,128,128,1278
4880 REM###################################### LOAD TAPE FILE.
4890 SCNCLR:PRINT:PRINT:PRINT:PRINT
4900 PRINT"IF TAPE IS REWOUND.":PRINT
4910 OPEN1,1,0
4920 FORI=0TO400
4930 INPUT#1,A
4940 N(I)=A
4950 NEXTI
4960 FORI=1TO400
4970 INPUT#1,A
4980 BT(I)=A
4990 NEXTI
5000 INPUT#1,LB$
5010 CLOSE1
5020 GOTO 1390
5030 REM###################################### SAVE FILE TO TAPE.
5040 SCNCLR:PRINT:PRINT:PRINT:PRINT
5050 PRINT"IF TAPE IS REWOUND.":PRINT
5060 OPEN1,1,2
5070 FORI=0TO400
5080 PRINT#1,N(I)
5090 NEXTI
5100 FORI=1TO400
5110 PRINT#1,BT(I)
5120 NEXTI
5130 PRINT#1,LB$
5140 CLOSE1
5150 GOTO 1390
```

★ Program Submission Procedure ★

DO NOT submit any program or routine that you do not either own or have property authority to do so.

ALWAYS include your name, address and the date on all material and any enclosures.
Do not forget to make it clear exactly which computer/s your program or article is applicable to.

Include ROM or DOS versions wherever they are pertinent.

If you have to submit work which is hand-written then you must make sure it is printed clearly.

Number all pages.

Never use staples. Use paperclips if necessary.
If you are saving your program to tape then save it AT LEAST twice on each side.
When you save a program on disk save it twice and call the second file "BACKUP".

Remember to label all tapes and disks with your name and the title of the program. Label tape or disk with your name and the name or title of the program.

Always ensure that disks are well packaged. They should ideally be sent in a commercial disk mailer or at least packed between two pieces of hardboard or rigid plastic.

Please allow at least 8 weeks for acknowledgement as all programs have to be thoroughly tested and made into a suitable format.

Enclose a self-addressed stamped envelope or package if you would like your program to be returned.

★ Programming tips ★

If you can, use CHR$(x) type commands instead of those hard to read graphic symbols.
If necessary renumber your program on completion a many readers use auto number utilities to ease typing in.

Try to keep instructions within the program itself at a sensible level. You can expand on them within the accompany text if necessary.

TEST your programs before submitting them or even better get a friend to test them for you.

If a program contains machine code data please use decimal and not hex as there are fewer digits to be confused. Try and keep the same number of data statements in each line. Please add some form of error checking if your program contains more than five lines of data.

BIGLET

+4 & C16
Russ Freeman
This is a simple program to display a scrolling message bar at the top of the screen – a bit of fun for the poor neglected owners of these machines.

BIG LETTERS

Type in listing 1 and run it. This is a basic loader for the machine code routine. To test it type:
POKE209,1
This turns the scrolling on. You should now get random letters scrolling across the top of the screen.
Next enter the monitor and type:
S"B",1,3E00,3ECA
You can then use the machine code version in your own programs.
Type in listing 2 and run it.
You should have a short pause and then some words scrolling across the top of your screen.
Listing 2 takes A$ one character at a time and pokes it into locations 16128 through to 16384. Next it will turn scrolling on using POKE209,1
Lines 140-200 will stop the display when it reaches a certain character, pause for a moment and then resume scrolling.

COMMANDS

SYS16023: initialise routine and wedge into interrupts.
POKE209,1: turn scroll off.
POKE209,0: turn scroll off.
POKE208,A: where A = character number to start scrolling from.

To load machine code version from tape, type:
LOAD"B",1,1
To save machine code version type:
S"B",1,3E00,3ECA

ADDITIONAL EXPLANATION

Big Letters, as you probably guessed, is a machine code program to display a message of 256 characters long across the top of the screen. Each letter is in 8×8 format and the information for each letter is taken from the character ROM, therefore, in theory it should display all 256 characters available.

The program protects itself from Basic, so no additional protection is necessary.

My original aim was to enable the Basic user to display messages across the screen at varying speeds, but, because of timing problems, I found the message was jumping or scrolling unevenly therefore I have chosen a timing which I think is rather smooth.

DEMO

As its name suggests, is a demo from Big Letters.

In a roundabout way this is how the program works.
Line 20 – initialise a routine and set char pointer to 0
Lines 30-60 – build A$ to 2SS characters long
Line 70 – clear message area (not necessary but nice!)
Line 80 – get length of string and check length for mistakes
Lines 90-100 – get first letter in string
Line 110 – put letter into correct format
Line 120 – poke letter into correct area of memory
Line 130 – repeat until end of string and then turn routine on
Line 140 – read 208. 208 contains char pointer
to 150 – If 208 equals required char then turn scrolling off
Line 160 – have delay and turn scrolling off
Line 170 – turn scrolling on
Line 180-210 same as 140 to 170

```
100 REM***** PROG: BIG LETTERS *****
110 REM***** DATE: 16/12/87    *****
120 REM***** RUSSELL FREEMAN   *****
130 C=0:D=0:F=200
140 FORA=1TO8:READB$:IFB$="*"THENPRINT"OK":SYS16023:END
150 B=VAL(B$):IF B>255 THEN 190
160 D=D+B:POKE15872+C,B:C=C+1:NEXT
170 READD$:IFVAL(D$)<>DTHENPRINT"DATA ERROR IN LINE ";F:END
180 F=F+10: D=0:GOTO140
190 PRINT "DATA RANGE ERROR IN LINE ";F:END
200 DATA 169,000,133,210,169,208,133,211,1233
210 DATA 164,208,190,000,063,240,014,024,0903
220 DATA 165,210,105,008,133,210,144,002,0977
230 DATA 230,211,202,208,242,200,132,208,1633
240 DATA 160,000,177,210,153,213,000,200,1113
250 DATA 192,008,240,003,076,034,062,096,0711
260 DATA 169,039,133,221,169,012,133,222,1098
270 DATA 162,000,160,000,181,213,010,149,0875
280 DATA 213,169,032,144,002,169,160,145,1034
290 DATA 221,024,165,221,105,040,133,221,1130
300 DATA 144,002,230,222,232,224,008,240,1302
310 DATA 003,076,058,062,160,000,185,001,0545
320 DATA 012,153,000,012,185,041,012,153,0568
330 DATA 040,012,185,081,012,153,080,012,0575
340 DATA 185,121,012,153,120,012,185,161,0949
350 DATA 012,153,160,012,185,201,012,153,0888
360 DATA 200,012,185,241,012,153,240,012,1055
370 DATA 185,025,013,153,024,013,200,192,0805
380 DATA 039,240,003,076,094,062,096,169,0779
390 DATA 000,133,053,133,055,169,062,133,0738
400 DATA 054,133,056,234,169,176,141,020,0983
410 DATA 003,169,062,141,021,003,234,096,0729
420 DATA 165,209,208,003,076,014,206,032,0913
430 DATA 048,062,164,223,198,223,208,244,1370
440 DATA 160,008,132,223,032,000,062,076,0693
450 DATA 014,206,000,000,000,000,000,000,0220
460 DATA*,*
```

```
100 rem***** prog: big 1.demo *****
110 rem***** date: 10/1/88    *****
120 rem***** russell freeman  *****
130 scnclr
140 sys16023:poke208,0:
150 a$="this superb piece of software was written by russ freeman"
160 a$=a$+" it is easy to use and incorporate in your own programs"
170 a$=a$+".you can use both upper and lower CASE LETTERS SIMPLY BY PRESSING shi
ft"
180 a$=a$+".thats all.bye!!.ps..thanks to mandy for typing it all out"
190 fora=0to255:poke16128+a,32:next
200 a=len(a$):ifa>255thena=255
210 forb=1toa
220 c=asc(mid$(a$,b,1))
230 ifc>64thenc=c-64
240 poke16127+b,c
250 next:poke209,1
260 ifpeek(208)=50thengoto280
270 goto260
280 poke209,0:fora=0to2000:next
290 poke209,1
300 ifpeek(208)=233thengoto320
310 goto300
320 poke209,0:fora=0to2000:next
330 poke209,1
```

BIGLETDEMO +4

A demo for the above program.

CLASSIFIED

Plus/4 games for sale, going cheap, for my price list write to D Thompson, 111 Church Street, Edmonton, London N9 9AA.

MPS803 printer with tractor feed for sale, with spare ribbon, vgc £110 inc postage. Phone 02406 3421 (S. Bucks).

C64, 1541 disk drive, Turbo ROM, C2N printer interface, word processor, loads of disks, books and magazines, only £250 ono. Phone 0274 833742 after 5pm.

Amiga owner wants to swap games with Amiga users all over the world. All letters answered. Send disks to: T. Arntsen, Gamle Kongev, 15, 7650, Verdal, Norway.

C64 disk drive, 2 cassettes, FF3B cartridge, MPS 803 printer, £350 worth software books, disk, tapes, joystick case £300. Phone 0656 720912.

C64 user looking for a game called Raid Over Moscow. Can anyone help me, please, must be on tape. Phone 0865 66329.

Amiga owner wishes to swap software for fast reply write to Stuart Cambridge, 94 Ashgrove Road, Goodmayes, Ilford, Essex IG3 9XD. Phone 01 590 8909.

Aust 64 user wants to swap software with users worldwide, programs, games etc, send tapes or lists to Danny, 14 Clarke Road, Springvale, South Victoria, Australia 3172.

Swap or die! Send me your newest stuff and I send my newest stuff back! C64 disk only, write to Jan Svensso0n, Borgärdetsv 12, 79023 Svardsjo, Sweden, all letters answered.

Wanted 1541 or 1551 disk drives, MPS801, MPS802, MPS803 with optional tractor feed or DPS-1101, for C14/+4 only, please ring at week days only 4 to 6pm.

C64/128 printer intefaces, Xetec, Supergraphik and Micrographix MW350 £30 each. C2N data cassette recorder £18. T. Hart, 17 Burns Gardens, Lincoln 29643.

CBM Plus/4 Commodore DPS 1101 printer, Turbo plus, Commodore tape deck, approx 60 games, joystick, two dust covers, mags £185.

Amiga 500 boxed plus A1081 colour monitor, 5 quality games, joystick all manuals, as new, offers £600 ovno Phone 0582 593753 (Luton).

C64 users wishes to swap games on disk, I have about 200+ games, send lists Danny, 4 Verney Street, Neasden, London NW10 0BA.

C64 user wants to swap software with people all over the world. (disk) Send lists or disks to Jeff Cooper, 46 Viking, Gt Hollands, Bracknell, Berks, RG12 4UL.

Commodore 128 1571 diskdrive together with 1531 data recorder, teletext adaptor software and 2 joysticks £250 ono. Phone Gosport 552150.

For sale, input in binders £30, 100 blank disk £10, 100+ games on tape & disk, send for list. T Jones, 8 Lovell Place, Rotherhithe, London SE16 1QQ.

Hi freaks, swap C64 software all over the world, contact Jane PO Box 63, 01360 Vantaa, Finland. Disk and tape.

Amiga owner, wants to swap, send lists or disks to Gary, 35 Goshen Park, Skewen, West Glam SA10 6PT.

Amiga contacts around the world wanted! Also good 'c' coders, write to Dave Jackson, 11a Priory Cresent, Preston, Lancs PR1 0AL, all letters answered.

It's here! Computerised bingo, C64, 100% machine code and turbo, original tickets included free. Only £5.95 tape, £6.95 disk, payable to J. Bosworth, 106 Ardgowan Road, Catford SE6.

C64 owner wants to swap software and tips, disk only, also 1570 disk drive for sale £100. Tim Pearson, 2 Courthouse Cottages, Stewarton, Ayrshire, KA3 5BE Scotland.

Commodore 64 C2N 1541 with disk demon, centronics printer interface, Freeze Frame III, easyscript and various games and utilities £250. Phone John 031 332 9814 after 7.30pm 041 248 7221 daytime.

C128 user wants to swap all kinds of software and info for all C128/64 modes worldwide, all disks, cassettes and letters answered. Alf H Jonassen, Fjellvegen 16A N-4300 Gandnes, Norway.

C64 excelerator & drive, tape, MPS803 tractor & paper, games, 600+ disk, 100+ tapes, expert GT loader, Speech 64, 2 joysticks, 100 blank disks, £300. Phone Tony 01 237 9240.

Commodore 128 boxed, mint with software tape or disk, £150, guarantee card, will work with 1541 or 1570, 1571 disk drive. Phone 0753 26755 after 5pm.

Amiga owner wishes to swap software all over the world. Please send list or disk to Henning Karlson 6090 Fosnavag, Norway.

C128/64 software to swap. A huge list (disk only). Please send your list for mine. Address: David Ingham, PO Box 94, Modbury North, South Australia, 5092.

Give me a break! I am a male 64c owner and would like a femal penpal aged 12-15, please photos, write to Adam Marshall 6 The Pavillion, Stainton near Penrith, Cumbria.

The Cheat Machine, new fanzine, 40 pages, over 90 cheats on new and old games, adventure, budget, sales, wants, reviews, news, players guides, solutions, tips and map, £1 plus A5 sae. C64 only.

Amiga software to swop with other Amiga user, I have about 100 disks send list and/or disks to Alfred Calleja, Villa Veduta Gharghur Road, Naxxar, Malta.

Australian Amiga owner to swap hot programs with people all over the world. Send a list and some disks with latest stuff to PO Box 289, Engadine, NSW 2233 Australia, all letters answered.

Amiga freak wishes to swap games with people worldwide. I have a lot of news, all letters answered. Contact Arne Erik Rye, Knarreviktoppen 13, 4637 Kristiansand, Norway.

C128, 1570 C2N, Commodore modem, RS232 interface, many C64 games, some utilities, some on disk, manuals, leads, etc. £300 ono. Phone 061 678 0043 after 6.30pm.

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C64/128 owner wishes to swap utility with people all over the world. Wanted: Geos applications manuals, send disks or letters to: Giuliano Cinci, Pian Dei Mantellini, 44 53100 Siena, Italia.

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C64 owner wants to swap software, disk only. Send your list to: Ray Batey, 22 Woodhead Park, Haltwhistle, Northumberland NE49 9DD.

Amiga contacts wanted: Latest stuff. Send disks/letters to: Xavier, Ei Roser 34, 43770 Mora La Nova, Tarragona, Spain. All letters/disks answered.

Does anybody have an instruction manual for "The Print Shop" which I could borrow please? Tel: 0773 602601.

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Amiga user and video creator looking to exchange software, tapes and ideas. Contact John Cooksey, PO Box 194, Greenwich, CT, USA, 06831.

Swap on Amiga/C64/128. Swap software all over the world. Got the hottest!! Contact: Christen Hansen, N-8543 Kjeldebotn. Tel: (082) 26 127.

Amiga Penpals wanted around the world! To swap programs, opinions etc. Send letters or disks to Kimmo Nikulainen, Pyykkarintie 2, 73200 Varpaisjarvi, Finland.

Australian Amiga and C64 owner wishes to contact other users worldwide. Write to Paul Vowles, PO Box 197, Bentley 6102, Western Australia.

Wanted: Amiga contacts for swapping, tips and such. Of course, all letters will be answered! Especially people from Japan, Australia, Africa and America are welcome. Write to: Fredrik Jakobsson, Vetegatan , 582 53 Linkoping, Sweden.

Amiga swappers. Contact us for the latest. D. Barrett, 7 Milton Court, 534 Umbilo Road, Durban, 4001, Republic of South Africa.

Amiga C64/128 users – we can give you all the software you want! Membership £8.50. We are a group called "Diskhunters". Please write to our new group. P.S. We have a lot of good games and software. Henning Karlsen, 6090, Fosnavag, Norway.

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Swap C64 games disk only, all the latest, all letters answered, send list or disks to Stephen Atkins, TCW, UKMF, RAF Brize Norton, Oxford OX8 3LX.

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For sale, Amiga 2000, two internal drives, 1½MB ram, 1081 monitor, £1099, PCXT Bridge board with 5¼" drive, £399. Both together £1400. Phone Derek 01 511 1267 (London E6).

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Wanted C64 cash paid up to £100. Phone Peter Healy, work 0784 61666 X3023 or home High Wycombe 713553.

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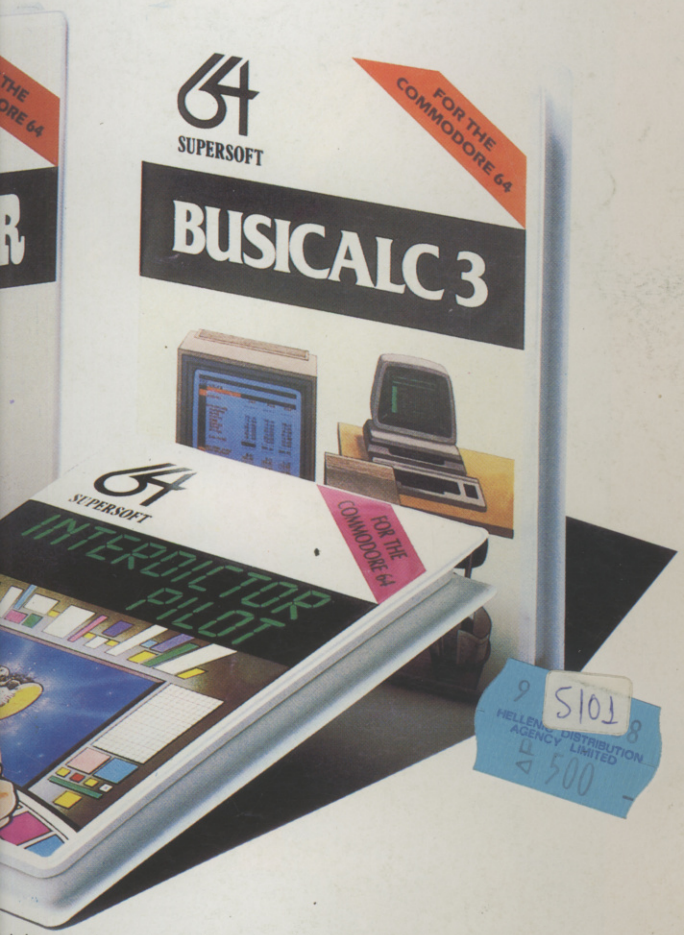

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